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Department of Municipal Statistics. City of Boston.

DOCUMENTS

OF THE

SCHOOL COMMITTEE

OF THE

CITY OF BOSTON,

FOR THE YEAR 1887.

BOSTON:
ROCKWELL AND CHURCHILL, CITY PRINTERS,
No. 39 ARCH STREET.
1888.

INDEX TO SCHOOL DOCUMENTS — 1887.

1. — Report of the Committee on Salaries.
2. — Report of the Committee on Nominations.
3. — Annual Report of the Superintendent of Schools.
4. — Report of the Committee on Examinations on the Study of Arithmetic.
5. — Report of the Committee on Supplies.
6. — Report of the Committee on Accounts.
7. — Address of Supervisor Ellis Peterson on the Study of Arithmetic.
8. — Report of the Committee on Text-Books.
9. — Address of Francis A. Walker on the Study of Arithmetic.
10. — Report of the Committee on Examinations on Course of Study for High Schools.
11. — Report of the Committee on Examinations on Course of Study for Boys' Latin School.
12. — Report of Instructor in Hygiene.
13. — Catalogue of the Boston Normal School, 1887.
14. — Semi-annual Statistics, June, 1887.
15. — Suggestions to Teachers of French and German.
16. — Report of the Committee on Horace Mann School for the Deaf.
17. — Annual Report of the Board of Supervisors.
18. — Supplementary List of Candidates eligible as Teachers.
19. — Report of the Committee on Hygiene on Sessions of Schools during December, January, February.
20. — List of authorized Text and Reference Books, and Supplementary Reading, 1887–8.
21. — Report of Committee on Examinations on Establishment of Public Kindergartens.
22. — Report of Committee on Manual Training School.

SCHOOL DOCUMENT NO. 1—1887.

REPORT

OF THE

COMMITTEE ON SALARIES.

BOSTON:
ROCKWELL AND CHURCHILL, CITY PRINTERS,
No. 39 ARCH STREET.
1887.

REPORT.

In School Committee, Boston, Feb. 23, 1887.

The Committee on Salaries, in accordance with the Rules, present their annual report.

The committee, after a careful consideration of the subject, report that the salaries of the instructors in the public schools be continued at the rates now paid.

The committee recommend the passage of the following orders.

For the Committee,

GEORGE B. HYDE,
Chairman.

1. *Ordered*, That the salaries of instructors of the public schools be for the ensuing school year as contained in the following schedule: —

NORMAL SCHOOL.

Head-Master	$3,780
First Assistant, first year, $1,440; annual increase, $36; maximum,	1,620
Second " first year, $1,140; annual increase, $48; maximum,	1,380

HIGH SCHOOLS.

Head-Masters	$3,780
Masters	2,880
Junior Masters, first year, $1,008; annual increase (for thirteen years), $144; salary for the fourteenth and subsequent years, with the rank of master	2,880
Assistant Principal	1,800
[1] First Assistants	1,620
Assistants, first year, $756; annual increase, $48; maximum	1,380

[1] The rank of First Assistant (High Schools) shall be abolished, as the position now recognized shall become vacant in schools where first assistants are now employed. [Regulations, Sect. 226, Par. 4.]

There are at present three first assistants (High Schools) in service.

GRAMMAR SCHOOLS.

Masters, first year, $2,580; annual increase, $60; maximum	$2,880
Sub-Masters, first year, $1,500; annual increase, $60; maximum	2,280
Principal Tileston School	1,380
First Assistants, first year, $900; annual increase, $36; maximum	1,080
Second " first year, $756; annual increase, $12; maximum	816
Third " first year, $456; annual increase, $48; maximum	744

PRIMARY SCHOOLS.

Second Assistants, first year, $756; annual increase, $12; maximum,	$816
Fourth " first year, $456; annual increase, $48; maximum,	744

SPECIAL INSTRUCTORS.

Instructor in Hygiene	$3,000
Special Instructors of Music (each)	2,640
Director of Drawing	3,000
Teacher of Chemistry, Girls' High School	1,380
Assistant in " " " "	744
Teacher of Physical Culture and Elocution, Girls' High School	960
" " " " Girls' Latin School	492
Teacher of Drawing, Penmanship, and Elementary Method, Normal School	828
Director of French and German	3,000
Assistants	1,000
Horace Mann School for the Deaf — Principal	1,800
First Assistant	900
Assistants, first year, $700; second year and subsequently	800
Instructor in Manual Training School	1,200
Instructors in Schools of Cookery, first year, $456; annual increase, $48; maximum	744
Instructor Military Drill	1,500
Armorer	660

Teachers of sewing: —

One division	$108	Seven divisions	$540
Two divisions	192	Eight divisions	588
Three divisions	276	Nine divisions	636
Four divisions	348	Ten divisions	684
Five divisions	420	Eleven divisions	732
Six divisions	492	All over eleven divisions	744

Principal, Evening High School (per week): first year, $30; second year, $40; third year and subsequently	$50 00
Assistants, Evening High School (per evening)	4 00
Principals, Evening Elementary Schools (per evening)	4 00
Assistants, Evening Elementary Schools (per evening)	1 50

Masters, Evening Drawing Schools (per evening): first year, $8; second year, $9; third year and subsequently	$10 00
Head-Assistants, Evening Drawing Schools (per evening) . .	6 00
Assistants, Evening Drawing Schools (per evening) . . .	5 00
Special Assistant Teachers, lowest classes Primary Schools (per week)	5 00

2. *Ordered*, That Masters elected as Principals of High Schools, whose average whole number for the preceding school year exceeds one hundred pupils, receive $288; Sub-Masters, elected as Principals, $216; First Assistants, elected as Principals, $72; each, in addition to the regular salary of the rank.

3. *Ordered*, That the salary of a temporary junior master be at the rate of five dollars per day of actual service.

SCHOOL DOCUMENT NO. 2—1887.

NOMINATIONS FOR REËLECTION.

REPORT

OF THE

COMMITTEE ON NOMINATIONS.

BOSTON:
ROCKWELL AND CHURCHILL, CITY PRINTERS,
No. 39 ARCH STREET.
1887.

REPORT.

In School Committee, Boston, March 8, 1887.

The Committee on Nominations have considered the recommendations for nominations for reëlection submitted to them by the Committees on Normal and High Schools, and the several Division Committees, and nominate for reëlection, for the ensuing school year, the instructors named below.

In several of the districts the numbers do not warrant the number of teachers nominated. The committees in charge urge the nomination of extra teachers in these districts for reasons which seem just and sufficient. It has been found necessary to follow the practice of many years to continue these teachers in the service, for the following reasons: a want of seating capacity; to preserve the proper classification of the schools; necessity of maintaining classes outside the regular school buildings; necessity of establishing classes in certain growing sections in the outlying districts which are remote from other schools.

One of the reasons for the appointment of these extra teachers is that the number of pupils in the first classes of some of the Grammar Schools is smaller than the standard number of pupils to a teacher as fixed by the Regulations. Your Committee suggest that the Committee on Rules and Regulations be requested to consider the matter and report at their convenience.

In one district, — the Mount Vernon, — owing to the necessity of maintaining grammar classes at some distance

from the grammar-school-house, the Board has allowed the appointment of an additional first assistant.

In three districts — the Allston, Bennett, and Charles Sumner Districts — the Board has allowed the appointment of two teachers of a lower rank in place of one teacher of a higher rank.

In one district — the Phillips District — the Board has allowed the continuance of one second assistant, Primary School, on account of the long and successful experience of the present teacher.

A list of these teachers is as follows : —

Allston District. — One additional second assistant in place of a sub-master.

Bennett District. — One additional second assistant in place of a sub-master.

Charles Sumner District. — One additional third assistant in place of sub-master.

Mt. Vernon District. — One additional first assistant.

Phillips District. — One additional second assistant, Primary School.

The following is a list of the extra teachers asked for in accordance with the reasons given above : —

One additional Grammar-school teacher in the Allston, Brimmer, Charles Sumner, Emerson, Franklin, George Putnam, Hancock, Lyman, Martin, Minot, Mt. Vernon, Norcross, Quincy, and Tileston Districts. Two additional Grammar-school teachers in the Bowdoin, Eliot, and Gibson Districts. One additional Primary-school teacher in the Bennett, Bowdoin, Bunker Hill, Charles Sumner, Eliot, Lawrence, and Minot Districts. The total number of teachers nominated in excess of the number allowed by the Regulations is twenty-seven.

In the several schools and districts there are seventeen teachers, who, though allowed by the Regulations, have not been asked for by the several committees in charge ; so that the actual number of teachers nominated in excess of the

numbers is ten. Last year the actual number of teachers nominated in excess of the numbers was twenty.

Section 226, paragraph 8, of the Regulations, provides that —

> The Regulations which fix the rank of teachers any school is entitled to shall not be held to require the reduction in rank of any regularly confirmed teacher who has been nominated for reëlection, to serve in the same school in which he is already serving, except as hereinafter provided. Whenever it shall appear that the rank of a regularly confirmed teacher serving in any school is higher than the number of pupils in said school would allow by the Regulations strictly applied, the Committee on Nominations shall, at the first opportunity, propose a transfer of such teacher to a school in which a suitable vacancy exists; and all proposals of transfer so made shall be acted on by the Board before the vacancy is filled in any other way. A teacher declining to be so transferred may thereupon be reduced in rank, as required by the Regulations.

Under the authority of the Regulations, as above quoted, the following-named teachers have been nominated with ranks higher than the Regulations strictly applied would allow : —

Bowdoin District. — One first assistant.

George Putnam District. — One first assistant.

Lyman District. — One first assistant, one second assistant.

Quincy District. — One sub-master.

Winthrop District. — One second assistant.

The Regulations provide that there shall be not more than one ungraded class in a district. There are two districts — Eliot and Hancock — in which the character of the pupils, and the best interests of the schools, require the maintenance of more than one ungraded class. Upon the abolishment of the schools for licensed minors, the Board, by special vote, allowed the establishment of additional ungraded classes in these districts. Your committee are of the opinion that some definite action should be taken by the Board at this time, as

to the number of these classes in the districts named, and they therefore submit an order for that purpose.

Your committee recommend the passage of the following orders, under a suspension of the rules.

For the Committee,

J. W. PORTER,
Chairman.

Ordered, That extra teachers be allowed in those districts where, from want of seating capacity, or to preserve the present classification, the Committee on Nominations, on the recommendation of the committees in charge, have included them in this report.

Ordered, That four ungraded classes in the Eliot District, and two ungraded classes in the Hancock District, may hereafter be maintained.

NORMAL SCHOOL.

Greatest whole number belonging during the year..... 125
Average whole number belonging during the year..... 109
Entitled to 4 teachers.

First Assistant.

L. Theresa Moses.

Second Assistants.

Annie E. Chace.
Katharine H. Shute.

Special Teacher of Illustrative Drawing, Penmanship, and Elementary Methods.

W. Bertha Hintz.

RICE TRAINING SCHOOL. (Boys.)

Greatest whole number belonging to Grammar School..... 620
Average whole number belonging to Grammar School..... 591
Entitled to 10 regular teachers, 1 special.
Greatest whole number belonging to Primary Schools..... 459
Entitled to 8 teachers.

Sub-masters.

Joseph L. Caverley,
Charles F. Kimball.

First Assistant.

Martha E. Pritchard.

Second Assistant.

Florence Marshall.

Third Assistants.

Dora Brown,
Elizabeth M. Burnham,
Eliza Cox,
Ella T. Gould,
Martha H. Jackson,
Harriet H. Norcross,
E. Maria Simonds.

Second Assistant, Primary School.

Ella F. Wyman.

Fourth Assistants.

Anna B. Badlam,
Gertrude E. Bigelow,
Sarah E. Bowers,
Clara C. Dunn,
Mabel I. Emerson,
Grace Hooper,
Emma L. Wyman.

HIGH SCHOOLS.

BOYS' LATIN SCHOOL.

Greatest whole number belonging during the year..... 426
Average whole number belonging during the year..... 413
Entitled to 12 teachers.

Masters.

Charles J. Capen,
Joseph W. Chadwick,
Arthur I. Fiske,
Frank W. Freeborn,
Byron Groce,
Edward P. Jackson,
John K. Richardson.

Junior Masters.

Grenville C. Emery,
Henry C. Jones,
Thomas A. Mullen,
George W. Rollins.

ON PROBATION.

Francis DeM. Dunn, *Junior Master.*

GIRLS' LATIN SCHOOL.

Greatest whole number belonging during the year..... 162
Average whole number belonging during the year..... 155
Entitled to 1 master and 5 assistants.

Assistants.

Augusta R. Curtis,
Jessie Girdwood,
Alice H. Luce,
Jennie R. Sheldon,
Anna Van Vleck.

ON PROBATION.

Lyman R. Williston, *Master.*

ENGLISH HIGH SCHOOL. (Boys.)

Greatest whole number belonging during the year..... 638
Average whole number belonging during the year..... 622
Entitled to 18 teachers.

Masters.

Luther W. Anderson,
Robert E. Babson,
John F. Casey,
Alfred P. Gage,
L. Hall Grandgent,
Jerome B. Poole,
Manson Seavy,
Samuel C. Smith,
Charles B. Travis.

Junior Masters.

Frank O. Carpenter,
George W. Evans,
Melvin J. Hill,
William B. Snow,
William H. Sylvester,
James E. Thomas,
Rufus P. Williams.

ON PROBATION.

Junior Masters.

James A. Beatley,
Walter H. Russell.

GIRLS' HIGH SCHOOL.

Greatest whole number belonging during the year. 742
Average whole number belonging during the year..... 714
Entitled to 21 teachers.

Assistant Principal.

Harriet E. Caryl.

First Assistant.

Margaret A. Badger.

Assistants.

Alla W. Foster,
Charlotte M. Gardner,
Helen A. Gardner,
Augusta C. Kimball,
Mary B. King,
Katherine Knapp,
Parnell S. Murray,
V. Colonna Murray,
Sarah J. C. Needham,
Emerette O. Patch,
Emma G. Shaw,
Sarah A. Shorey,
Lizzie L. Smith,
Adeline L. Sylvester,
Emma A. Temple,
Clara E. Webster,
Lucy R. Woods.

Teacher of Chemistry.

Laura B. White.

Laboratory Assistant.

Margaret C. Brawley.

ON PROBATION.

Emma W. Kaan, *Assistant.*

ROXBURY HIGH SCHOOL. (Boys and Girls.)

Greatest whole number belonging during the year..... 251
Average whole number belonging during the year..... 218
Entitled to 7 teachers.

First Assistant.

Emily Weeks.

Assistants.

Clara H. Balch,
Clara Bancroft,
Eliza D. Gardner.

ON PROBATION.

Assistants.

Nathaniel S. French,
Dora Williams.

DORCHESTER HIGH SCHOOL. (Boys and Girls.)

Greatest whole number belonging during the year..... 163
Average whole number belonging during the year..... 158
Entitled to 5 teachers.

First Assistant.

Mary W. Hall.

Assistants.

Laura E. Hovey,
Rebecca V. Humphrey.

ON PROBATION.

Assistants.

Elizabeth M. Ritter,
Josiah P. Ryder.

CHARLESTOWN HIGH SCHOOL. (Boys and Girls.)

Greatest whole number belonging during the year..... 231
Average whole number belonging during the year..... 207
Entitled to 7 teachers.

Assistants.

Mary C. C. Goddard,
Abbie F. Nye,
Sarah Shaw,
Adelaide E. Somes,
Alla F. Young.

ON PROBATION.

Mary E. Upham, *Assistant.*

WEST ROXBURY HIGH SCHOOL. (Boys and Girls.)

Greatest whole number belonging during the year..... 92
Average whole number belonging during the year..... 89
Entitled to 3 teachers.

Assistants.

Alma S. Brigham,
Edna F. Calder,
Josephine L. Sanborn.

BRIGHTON HIGH SCHOOL. (Boys and Girls.)

Greatest whole number belonging during the year..... 68
Average whole number belonging during the year..... 67
Entitled to 2 teachers.

Assistants.

Marion A. Hawes,
Ida M. Curtis.

EAST BOSTON HIGH SCHOOL. (Boys and Girls.)

Greatest whole number belonging during the year..... 154
Average whole number belonging during the year..... 148
Entitled to 4 teachers.

Assistants.

Lucy R. Beadle,
Kate W. Cushing,
Sarah L. Dyer,
Emily J. Tucker.

SPECIAL TEACHERS, HIGH SCHOOLS.

Modern Languages, Assistant Instructors.

Henri Morand,
John F. Stein.

FIRST DIVISION.

ADAMS DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School..... 548
Average whole number belonging to Grammar School..... 520
Entitled to 10 teachers.

Greatest whole number belonging to Primary Schools..... 513
Entitled to 9 teachers.

Sub-master.

Joel C. Bolan.

First Assistant.

Mary M. Morse.

Third Assistants.

M. Luetta Choate,
Lina H. Cook,
Albertine A. Martin,
Sarah E. McPhaill,
Ellenette Pillsbury,
Clara Robbins.
Harriet Sturtevant.

Second Assistant, Primary School.

Anna E. Reed.

Fourth Assistants.

Jennie A. Mayer,
Mary A. Palmer,
Grace M. Remick,
Ellen M. Robbins,
Nellie B Tucker,
Emma M. Weston.

ON PROBATION.

Second Assistant.

Charles H. Wilson.

Fourth Assistants.

Nellie M. Porter,
Emily H. Sanderson.

CHAPMAN DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School..... 649
Average whole number belonging to Grammar School..... 604
Entitled to 12 teachers.

Greatest whole number belonging to Primary Schools..... 346
Entitled to 6 teachers.

Sub-master.

Augustus H. Kelley.

First Assistants.

Annie M. Crozier,
Jane F. Reid.

Second Assistants.

Maria D. Kimball,
Sarah F. Tenney.

Third Assistants.

Mary E. Buffum,
Angeline Crosby,
Margaret B. Erskine,
Carrie M. Locke,
Jennie L. Waterbury,
Almira I. Wilson,
Lucy E. Woodwell.

Second Assistant, Primary School.

Hannah F. Crafts.

Fourth Assistants.

Maria A. Arnold,
Marietta Duncan,
Mary C. Hall,
Calista W. McLeod,
Clara A. Otis.

EMERSON DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School..... 676
Average whole number belonging to Grammar School..... 663
Entitled to 12 teachers.

Greatest whole number belonging to Primary Schools..... 536
Entitled to 10 teachers.

Sub-master.

J. Willard Brown.

First Assistants.

Elizabeth R. Drowne,
Mary A. Ford.

Second Assistants.

Bernice A. DeMerritt,
Frances H. Turner.

Third Assistants.

Lillian G. Bates,
Sarah A. Bond,
H. Elizabeth Cutter,
Mary D. Day,
Carrie Ford,
Juliette J. Pierce,
Laura S. Plummer,
Helen M. Souther.

Second Assistant, Primary School.

Mary E. Plummer.

Fourth Assistants.

Margaret A. Bartlett,
Ida J. Breckenridge,
Almaretta J. Crichett,
Harriet E. Litchfield,
Hannah L. Manson,
Lizzie M. Morrissey,
Susan A. Slavin,
Elizabeth A. Turner.

ON PROBATION.

Caroline E. Nutter, *Fourth Assistant.*

LYMAN DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School..... 590
Average whole number belonging to Grammar School..... 572
Entitled to 10 regular teachers, 1 special.

Greatest whole number belonging to Primary Schools..... 600
Entitled to 11 teachers.

Sub-master.

George K. Daniel, Jr.

First Assistants.

Cordelia Lothrop,
Eliza F. Russell.

Second Assistants.

Amelia H. Pitman,
Mary A. Turner.

Third Assistants.

Sibylla A. Bailey,
Clara B. George,
Ida E. Halliday,
George R. Keene,
Fannie M. Morris,
Mary E. Morse,
Mary P. E. Tewksbury.

Second Assistant, Primary School.

Anna I. Duncan.

Fourth Assistants.

Josephine A. Ayers,
Abby D. Beale,
Martha L. Frame,
Fidelia D. Merrick,
Charlotte A. Pike,
Jane A. Soutter,
Mary L. Sweeney,
Mary E. Williams.

ON PROBATION.

Martha H. Palmer, *Second Assistant, Primary School.*

SECOND DIVISION.

BUNKER HILL DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School..... 691
Average whole number belonging to Grammar School..... 675
Entitled to 12 regular teachers, 1 special.

Greatest whole number belonging to Primary Schools..... 628
Entitled to 11 teachers.

Sub-master.

Henry F. Sears.

First Assistants.

Mary A. Eaton,
Abby P. Josselyn.

Second Assistants.

Angelia M. Knowles,
Mary E. Minter.

Third Assistants.

Clara B. Brown,
Cora V. George,
Ida O. Hurd,
Emma F. Porter,
Anna M. Prescott,
Charlotte E. Seavey,
Eleanore S. Wolff.

Fourth Assistants.

Caroline M. Arnold,
Ada E. Bowler,
Mary E. Flanders,
Effie G. Hazen,
Annie B. Hunter,
Elizabeth B. Norton,
Mary D. Richardson,
Sarah A. Smith,
Mary S. Thomas,
Kate C. Thompson,
Jennie F. White,
Lucy A. Wilson.

ON PROBATION.

Annie F. McMahon, *Third Assistant.*

FROTHINGHAM DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School..... 640
Average whole number belonging to Grammar School..... 619
Entitled to 11 regular teachers, 1 special.

Greatest whole number belonging to Primary Schools 489
Entitled to 9 teachers.

Sub-master.

Wm. B. Atwood.

First Assistants.

Charlotte E. Camp,
Harriet E. Frye.

Second Assistants.

Arabella P. Moulton,
Bial W. Willard.

Third Assistants.

Julia M. Burbank,
Ellen A. Chapin,
Sarah H. Nowell,
Margaret J. O'Hea,
Lucy A. Seaver,
Ellen R. Stone,
Jennie E. Tobey.

Fourth Assistants.

Mary E. Corbett,
Nellie L. Cullis,
Mary E Delaney,
Louisa W. Huntress,
Fannie M. Lamson,
Abbie C. McAuliffe,
Helen E. Ramsey,
Persis M. Whittemore,
Martha Yeaton.

HARVARD DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School.....636
Average whole number belonging to Grammar School.....622
Entitled to 11 regular teachers, 1 special.

Greatest whole number belonging to Primary Schools 652
Entitled to 12 teachers.

Sub-master.

Darius Hadley.

First Assistants.

Sarah E. Leonard.
Mary A. Lovering.

Third Assistants.

Amy R. Chapman,
Callie E. Gary,
Ida B. Nute,
Annie E. O'Connor.
Sarah J. Perkins,
Eudora F. Sumner.

Fourth Assistants.

Grace H. Bredeen,
Catherine C. Brower,
Elizabeth R. Brower,
Elizabeth R. Cormier,
Elizabeth F. Doane,
Fanny A. Foster,
Elizabeth A. Prichard,
Lucy M. Small,
Alice T. Smith,
Louisa A. Whitman,
Lana J. Wood.

ON PROBATION.

Second Assistant.

Abbie M. Libby.

Third Assistant.

Elizabeth W. Allen.

Fourth Assistant.

Annie F. Childs.

PRESCOTT DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School 494
Average whole number belonging to Grammar School 474
Entitled to 9 teachers.

Greatest whole number belonging to Primary Schools 531
Entitled to 9 teachers.

First Assistant.

Belle P. Winslow.

Second Assistant.

Mary C. Sawyer.

Third Assistants.

Frances A. Craigen,
Elizabeth J. Farnsworth,
Mary E. Mailman,
Lydia A. Nason,
Julia C. Powers,
Julia F. Sawyer.

Fourth Assistants.

Nellie J. Breed,
Elizabeth J. Doherty,
Mary E. Franklin,
Emma M. Gregory,
Lydia E. Hapenny,
Kate M. Porter,
Alice Simpson,
Carrie M. Small,
Hattie L. Todd.

ON PROBATION.

Seth Sears, *Sub-master.*

WARREN DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School 699
Average whole number belonging to Grammar School 683
Entitled to 12 regular teachers, 1 special.

Greatest whole number belonging to Primary Schools 401
Entitled to 7 teachers.

Sub-master.

Edward Stickney.

First Assistants.

Sarah M. Chandler,
Elizabeth Swords.

Second Assistants.

Anna D. Dalton,
Ellen A. Pratt.

Third Assistants.

Marietta F. Allen,
Mary F. Haire,
Alice Hall,
Agnes G. Harrington,
Julia E. Harrington,
Abby E. Holt,
Mary E. Pierce,
Anna M. Pond.

Fourth Assistants.

Carrie F. Gammell,
Mary F. Kittredge,
Caroline E. Osgood,
Abby P. Richardson,
M. Josephine Smith,
Cora A. Wiley.

ON PROBATION.

Fannie L. Osgood, *Fourth Assistant.*

THIRD DIVISION.

BOWDOIN DISTRICT. (Girls.)

Greatest whole number belonging to Grammar School.....371
Average whole number belonging to Grammar School.....364
Entitled to 7 teachers.

Greatest whole number belonging to Primary School.....380
Entitled to 7 teachers.

First Assistants.

Sarah R. Smith,
Mary Young.

Second Assistant.

Sarah O. Brickett.

Third Assistants.

Eliza A. Fay,
Ella L. Macomber,
S. Frances Perry,
Dora E. Pitcher,
Mary E. Pitcher,
Irene W. Wentworth.

Second Assistant, Primary School.

Elizabeth R. Preston.

Fourth Assistants.

Sarah E. Brown,
Barbara C. Farrington,
Josephine O. Hedrick,
Mary S. Hosmer,
Ella E. Morrill,
Clara J. Raynolds,
Mabel West.

ELIOT DISTRICT. (Boys.)

Greatest whole number belonging to Grammar School..... 997
Average whole number belonging to Grammar School..... 973
Entitled to 17 regular teachers, 1 special.

Greatest whole number belonging to Primary Schools..... 527
Entitled to 9 teachers.

Sub-masters.

Tilson A. Mead,
Benjamin Tenney,
Granville S. Webster.

First Assistant.

Frances M. Bodge.

Second Assistant.

Adolin M. Steele.

Third Assistants.

Mary E. Barrett,
Mary V. Cunningham,
Margaret E. Dacey,
Kate L. Dodge,
Minnie I. Folger,
Annie M. H. Gillespie,
Mary E. Hanney,
Elizabeth C. Harding,
Isabel R. Haskins,
Mary Heaton,
Flora F. Joslin,
Clara A. Newell,
M. Persis Taylor,
Lucette A. Wentworth,
M. Ella Wilkins.

Second Assistants, Primary Schools.

Juliaette Davis,
Emma C. Glawson.

Fourth Assistants.

A. Augusta Coleman,
Marcella E. Donegan,
Sophia E. Krey,
Harriet E. Lampee,
J. Ida Monroe,
Nellie G. Murphy,
Rosa M. E. Reggio,
Cleone G. Tewksbury.

HANCOCK DISTRICT. (Girls.)

Greatest whole number belonging to Grammar School..... 564
Average whole number belonging to Grammar School..... 550
Entitled to 9 regular teachers, 1 special.

Greatest whole number belonging to Primary School..... 859
Entitled to 15 teachers.

First Assistants.

Amy E. Bradford,
Ellen C. Sawtelle.

Second Assistants.

Josephine M. Robertson,
Mary E. Skinner.

Third Assistants.

Susan E. Allen,
Adeline S. Bodge,
Elizabeth A. Fiske,
Helen M. Hitchings,
Honora T. O'Dowd,
Sophia L. Sherman.

Second Assistant, Primary School.

Teresa M. Gargan.

Fourth Assistants.

M. Lizzie Bryant,
Mary J. Clark,
Mary L. Desmond,
Agnes L. Dodge,
Harriet M. Frazer,
Esther W. Gilman,
Anna B. Grimes,
Marcella C. Halliday,
Lucy A. G. McGilvray,
Lucy M. A. Moore,
Mary G. Ruxton,
Josephine B. Silver,
Sarah E. Ward.

ON PROBATION.

Third Assistant.

Katharine E. Gillespie.

Fourth Assistant.

Julia E. Collins.

PHILLIPS DISTRICT. (Boys.)

Greatest whole number belonging to Grammar School..... 764
Average whole number belonging to Grammar School..... 738
Entitled to 13 regular teachers, 1 special.

Greatest whole number belonging to Primary Schools..... 328
Entitled to 6 teachers.

Sub-masters.

George Perkins,
Edward P. Shute.

First Assistant.

Nellie M. Whitney.

Second Assistant.

Adeline F. Cutter.

Third Assistants.

Helen M. Coolidge,
Sarah W. I. Copeland,
Alice M. Cushing,
Emeline C. Farley,
Louie H. Hinckley,
Martha A. Knowles,
Alice L. Lanman,
Ruth E. Rowe,
Eunice J. Simpson,
Mary E. Towle.

Second Assistant, Primary School.

Olive Ruggles.

Fourth Assistants.

Mary L. Bibbey,
Elizabeth K. Bolton,
Mary J. Leahy,
Elizabeth S. Parker,
Florida Y. Ruffin.

WELLS DISTRICT. (Girls.)

Greatest whole number belonging to Grammar School..... 499
Average whole number belonging to Grammar School..... 477
Entitled to 8 regular teachers, 1 special.

Greatest whole number belonging to Primary Schools..... 913
Entitled to 16 teachers.

First Assistants.

Emeline E. Durgin,
Ella F. Inman.

Second Assistant.

Hattie A. Watson.

Third Assistants.

Adelaide E. Badger,
Eliza A. Freeman,
Susan R. Gifford,
Ellen F. Jones,
Mary M. Perry,
Lizzie F. Stevens.

Second Assistants, Primary Schools.

Mary F. Gargan,
Maria W. Turner.

Fourth Assistants.

Mary E. Ames,
Georgia D. Barstow,
Elizabeth Campbell,
Sarah C. Chevaillier,
Mary A. Collins,
Alicia I. Collison,
Sarah G. Fogarty,
Helen M. Graves,
Lula A. L. Hill,
Lydia A. Isbell,
Adelaide A. Rea,
Jeannette A. Thompson,
Kate Wilson.

ON PROBATION.

Lillian W. Prescott, *Fourth Assistant.*

FOURTH DIVISION.

BRIMMER DISTRICT. (Boys.)

Greatest whole number belonging to Grammar School..... 689
Average whole number belonging to Grammar School..... 661
Entitled to 12 regular teachers, 1 special.

Greatest whole number belonging to Primary Schools..... 479
Entitled to 9 teachers.

Sub-master.

T. Henry Wason.

First Assistant.

Rebecca L. Duncan.

Second Assistant.

Ella L. Burbank.

Third Assistants.

Sarah E. Adams,
Helen L. Bodge,
Mary A. Carney,
Eliza E. Foster,
Josephine Garland,
Mary E. W. Hagerty,
Sarah J. March,
Elizabeth A. Noonan,
Lilla H. Shaw,
L. Maria Stetson.

Fourth Assistants.

Emily B. Burrill,
Emma F. Burrill,
Mary E. Collins,
Nellie T. Higgins,
Mary E. Tiernay,
Mary E. Whitney.

ON PROBATION.

Sub-master.

Gustavus F. Guild.

Second Assistant, Primary School.

Edith L. Stratton.

Fourth Assistants.

Elizabeth G. Cahill,
Alice Patten.

PRINCE SCHOOL. (Boys and Girls.)

Greatest whole number belonging to Grammar School..... 514
Average whole number belonging to Grammar School..... 505
Entitled to 9 teachers.

Greatest whole number belonging to Primary Schools..... 184
Entitled to 3 teachers.

Sub-master.

Sylvester Brown.

First Assistant.

Harriet D. Hinckley.

Second Assistant.

Luthera W. Bird.

Third Assistants.

Alice M. Dickey,
Mary L. Fynes,
Kate C. Martin,
Annie C. Murdock,
Kate A. Raycoft,
Mary Wilson.

Fourth Assistants.

Laura M. Kendrick,
Adeline S. Tufts.

ON PROBATION.

Josephine G. Dearborn, *Fourth Assistant.*

QUINCY DISTRICT. (Boys.)

Greatest whole number belonging to Grammar School..... 572
Average whole number belonging to Grammar School..... 546
Entitled to 10 regular teachers, 1 special.

Greatest whole number belonging to Primary Schools 735
Entitled to 13 teachers.

Sub-masters.

Frank F. Courtney,
William R. Morse.

First Assistant.

Annie M. Lund.

Second Assistant.

Mary L. Holland.

Third Assistants.

Harriette Bettis,
Ellen L. Collins,
Emma F. Colomy,
Ida H. Davis,
Bridget A. Foley,
John O'Driscoll,
Emily B. Peck,
Charlotte L. Wheelwright,

Second Assistant, Primary School.

Hannah E. G. Gleason.

Fourth Assistants.

Emma I. Baker,
Harriet M. Bolman,
Maria A. Callanan,
Mary E. Conley,
Ann T. Corliss,
Mary A. B. Gore,
Octavia C. Heard,
Kate A. Kiggen,
Emily E. Maynard,
Julia A. McIntyre,
Kate L. Wilson.

ON PROBATION.

Mary E. Graham, *Fourth Assistant.*

WINTHROP DISTRICT. (Girls.)

Greatest whole number belonging to Grammar School..... 967
Average whole number belonging to Grammar School..... 947
Entitled to 17 regular teachers, 1 special.

Greatest whole number belonging to Primary Schools 345
Entitled to 6 teachers.

First Assistants.

Mary Gertrude Ladd,
Susan A. W. Loring.

Second Assistants.

Mary T. Foley,
Mary L. H. Gerry,
Katharine K. Marlow,
Emma K. Valentine,
Margaret T. Wise.

Third Assistants.

Mary E. Barstow,
Caroline S. Crozier,
Emma A. Gordon,
Mary G. Harkins,
Helen L. Hilton,
Minnie L. Hobart,
Louise K. Hopkinson,
Caroline Merrill,
Mary A. Murphy,
Adelaide M. Odiorne,
Ellen M. Underwood.

Second Assistant, Primary School.

Amelia E. N. Treadwell.

Fourth Assistants.

Maria J. Coburn,
Julia M. Driscoll,
Marian A. Flynn,
Priscilla Johnson,
Mary E. Noonan.

FIFTH DIVISION.

DWIGHT DISTRICT. (Boys.)

Greatest whole number belonging to Grammar School.....706
Average whole number belonging to Grammar School.....678
Entitled to 12 regular teachers, 1 special.

Greatest whole number belonging to Primary Schools.....552
Entitled to 10 teachers.

Sub-master.

J. Langdon Curtis.

First Assistant.

Ruth G. Rich.

Second Assistant.

Mary C. R. Towle.

Third Assistants.

Georgianna Benjamin,
Isabella G. Bonnar,
Mary L. Farrington,
Jennie E. Morse,
Nellie L. Shaw,
Mary E. Trow,
Isabelle H. Wilson.

Second Assistant, Primary School.

Martha B. Lucas.

Fourth Assistants.

Ella Bradley,
Caroline A. Farrell,
Emma F. Gallagher,
Jennie I. Kendall,
Cora F. Plummer,
Miriam Sterne,
Delia L. Viles.

ON PROBATION.

Sub-master.

Henry C. Parker.

Third Assistants.

Agnes J. Cushman,
Mary McSkimmon.

Fourth Assistants.

Eva L. Monroe,
Mary E. O'Brien.

EVERETT DISTRICT. (Girls.)

Greatest whole number belonging to Grammar School.....740
Average whole number belonging to Grammar School.....720
Entitled to 13 regular teachers, 1 special.

Greatest whole number belonging to Primary Schools.....555
Entitled to 10 teachers.

First Assistants.

Janet M. Bullard,
Eliza M. Evert.

Second Assistants.

L. Gertrude Howes,
Emily F. Marshall.

Third Assistants.

Sarah L. Adams,
Ruth H. Clapp,
Lucy W. Eaton,
Ann R. Gavett,
Anna E. Grover,
Abby C. Haslet,
Evelyn E. Morse,
Sara W. Wilson.

Second Assistant, Primary School.

Eliza C. Gould.

Fourth Assistants.

Lydia F. Blanchard,
Hannah M. Coolidge,
Mary H. Downe,
Florence A. Perry,
Frances W. Sawyer,
Lydia A. Sawyer,
Adelaide B. Smith,
Alice E. Stevens.

ON PROBATION.

Second Assistant.	*Third Assistant.*
Susan S. Foster.	Mary H. Gibbons.

FRANKLIN DISTRICT. (Girls.)

Greatest whole number belonging to Grammar School.....735
Average whole number belonging to Grammar School.....683
Entitled to 12 regular teachers, 1 special.

Greatest whole number belonging to Primary Schools.....691
Entitled to 12 teachers.

First Assistants.

Isabella M. Harmon,
Jennie S. Tower.

Second Assistants.

P. Catherine Bradford,
Margaret J. Crosby,
Catherine T. Simonds.

Third Assistants.

Martha L. Beckler,
Kate E. Blanchard,
Emma G. Brown,
Roxanna W. Longley,
Annie G. Merrill,
Mary E. Mitchell,
Clara M. Moseley,
Anna E. L. Parker,
Margaret C. Schouler.

Second Assistants, Primary Schools.

Harriet M. Faxon,
Josephine G. Whipple.

Fourth Assistants.

Georgianna E. Abbott,
Emma E. Allin,
Georgianna A. Ballard,
C. Josephine Bates,
Kate R. Gookin,
Kate R. Hale,
Jennie E. Haskell,
Maude G. Hopkins,
Jennie M. Plummer,
Affie T. Wier.

HYDE DISTRICT. (Girls.)

Greatest whole number belonging to Grammar School.....650
Average whole number belonging to Grammar School.....605
Entitled to 11 regular teachers, 1 special.

Greatest whole number belonging to Primary Schools.....437
Entitled to 8 teachers.

First Assistants.

Lucy L. Burgess,
Mary E. Parsons.

Second Assistants.

E. Elizabeth Boies,
Sarah R. Bonney.

Third Assistants.

Marion Henshaw,
Alice G. Maguire,
Caroline K. Nickerson,
Annie M. Olsson,
Jane Reid,
Fanny L. Stockman,
Isabel G. Winslow.

Second Assistant, Primary School.

Anna G. Fillebrown.

Fourth Assistants.

Mary F. Cogswell,
Delia E. Cunningham,
Louise A. Kelley,
Rose A. Mitchell,
Mary G. Murphy.

ON PROBATION.

Third Assistant.	*Fourth Assistant.*
Ettie L. Deuel.	Abby M. Thompson.

SHERWIN DISTRICT. (Boys.)

Greatest whole number belonging to Grammar School 600
Average whole number belonging to Grammar School 569
Entitled to 10 regular teachers, 1 special.

Greatest whole number belonging to Primary Schools 482
Entitled to 9 teachers.

Sub-master.

John R. Morse.

First Assistant.

Elizabeth B. Walton.

Second Assistant.

Alice T. Kelley.

Third Assistants.

Louisa Ayer,
Adella L. Baldwin,
Sybel G. Brown,
Ester Fletcher,
Mary E. T. Healy,
Emma T. Smith.

Fourth Assistants.

Nellie H. Crowell,
Abby E. Ford,
Sarah E. Gould,
Minnie A. Perry,
Nellie Perry.
Oria J. Perry,
Emma L. Peterson,
Elizabeth F. Todd,
Annie E. Walcutt.

ON PROBATION.

Third Assistants.

Frank M. McCutchins,
Nellie F. Brazer.

SIXTH DIVISION.

ANDREW DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School 763
Average whole number belonging to Grammar School 742
Entitled to 14 teachers.

Greatest whole number belonging to Primary Schools 648
Entitled to 12 teachers.

Sub-master.

Frederic H. Ripley.

First Assistants.

Mary S. Beebe,
Frank M. Weis.

Second Assistant.

Henrietta L. Dwyer.

Third Assistants.

Ella I. Cass,
Annie L. Clapp,
Emma M. Cleary,
Agnes M. Cochran,
May J. Cunningham,
Mary L. Fitzgerald,
Lucy M. Marsh,
Elizabeth A. Souther,
Emma C. Stuart.

Second Assistant, Primary School.

Mary A. Jenkins.

Fourth Assistants.

Sarah E. Ferry,
Emily F. Hodsdon,
Alice P. Howard,
Estelle B. Jenkins,
Alice L. Littlefield,
Lizzie Ordway,
Sadie E. Welch,
Laura M. Young.

ON PROBATION.

Second Assistant.

Mary E. Perkins.

Fourth Assistant.

Grace L. Tucker.

BIGELOW DISTRICT. (Boys.)

Greatest whole number belonging to Grammar School 872
Average whole number belonging to Grammar School 827
Entitled to 16 teachers.

Greatest whole number belonging to Primary Schools 706
Entitled to 13 teachers.

Sub-masters.

J. Gardner Bassett,
F. Morton King.

First Assistant.

Amelia B. Coe.

Second Assistant.

Ellen Coe.

Third Assistants.

Ida A. Bloom,
Catherine H. Cook,
Stella A. Hale,
Eliza B. Haskell,
Kittie A. Learned,
Angeline S. Morse,
Mary Nichols,
Mary F. Savage,
Sabina G. Sweeney,
Malvena Tenney.

Second Assistant, Primary School.

Ann J. Lyon.

Fourth Assistants.

Tiley A. Bolkcom,
Edith M. Bradford,
Mary L. Bright,
Josephine B. Cherrington,
Kate A. Coolidge,
Ella F. Fitzgerald,
Mary L. Howard,
Lucy E. Johnson,
Sarah D. McKissick,
Margarette H. Price,
Florence N. Sloane,
Emily T. Smith.

ON PROBATION.

Cara W. Hanscom, *Third Assistant.*

GASTON DISTRICT. (Girls.)

Greatest whole number belonging to Grammar School 564
Average whole number belonging to Grammar School 550
Entitled to 9 regular teachers, 1 special.

Greatest whole number belonging to Primary Schools 851
Entitled to 15 teachers.

First Assistants.

Juliette R. Hayward,
Sarah C. Winn.

Second Assistant.

Annie E. Hills.

Third Assistants.

Mary B. Barry,
Mary H. Dwyer,
Clara A. Sharp,
Emma M. Sibley,
Emogene F. Willett,
Ellen R. Wyman.

Second Assistants, Primary Schools.

Elizabeth M. Easton,
Ella R. Johnson.

Fourth Assistants.

Florence Cahill,
Frances A. Cornish,
Mary A. Crosby,
Mary E. Dee,
Julia A. Evans,
Susan Frizzell,
Carrie A. Harlow,
Carrie W. Haydn,
Lelia R. Haydn,
S. Lila Huckins,
Laura L. Newhall,
Josephine A. Powers,
Anna E. Somes.

ON PROBATION.

A. Delancey Sutherland, *Second Assistant.*

LAWRENCE DISTRICT. (Boys.)

Greatest whole number belonging to Grammar School 1,039
Average whole number belonging to Grammar School 951
Entitled to 18 regular teachers, 1 special.

Greatest whole number belonging to Primary Schools 1,011
Entitled to 18 teachers.

Sub-masters.

Egbert M. Chesley,
Edward H. Cobb,
Augustus D. Small.

First Assistant.

Emma P. Hall.

Second Assistant.

Cora S. Locke.

Third Assistants.

Mary J. Buckley,
Hannah E. Burke,
Mary A. Conroy,
Isabelle F. Crapo,
Mary A. A. Dolan,
M. Louise Gillett,
Margaret A. Gleason,
Nellie R. Grant,
Kate Haushalter,
Ellen E. Leary,
Mary E. McMann,
Mary A. Montague,
Margaret A. Moody.

Second Assistants, Primary Schools.

Mary W. Bragdon,
Martha S. Damon,
Sarah E. Lakeman.

Fourth Assistants.

Ada A. Bradeen,
Emma Britt,
Sarah M. Brown,
Margaret M. Burns,
Annie M. Connor,
Lena J. Crosby,
Maud F. Crosby,
Mary E. Flynn,
Carrie T. Hale,
Marie F. Keenan,
Amelia McKenzie,
Henrietta Nichols,
Laura S. Russell,
Minnie E. T. Shine,
Lizzie J. Thing.

ON PROBATION.

Annie L. Treanor, *Fourth Assistant.*

LINCOLN DISTRICT. (Boys.)

Greatest whole number belonging to Grammar School 867
Average whole number belonging to Grammar School 851
Entitled to 15 regular teachers, 1 special.

Greatest whole number belonging to Primary Schools 334
Entitled to 6 teachers.

Sub-masters.

John F. Dwight,
Henry H. Kimball.

First Assistant.

Margaret J. Stewart.

Second Assistant.

Martha F. Wright.

Third Assistants.

Emma J. Channell,
Vodisa J. Comey,
Sarah A. Curran,
Mary H. Faxon,
Silence A. Hill,
Hannah L. Manson,
Jennie F. McKissick,
Louise A. Pieper,
Mary B. Powers,
Katherine G. Sullivan,
Sarah M. Tripp.

Second Assistant, Primary School.

Mary E. Powell.

Fourth Assistants.

Laura J. Gerry,
Fannie G. Patten,
Mary E. Perkins,
Ella M. Warner,
Joanna C. Wilkinson.

ON PROBATION.

L. Idalia Provan, *Third Assistant.*

NORCROSS DISTRICT. (GIRLS.)

Greatest whole number belonging to Grammar School..... 686
Average whole number belonging to Grammar School..... 651
Entitled to 12 regular teachers, 1 special.

Greatest whole number belonging to Primary Schools 729
Entitled to 13 teachers.

First Assistants.

Mary J. Fennelly,
Susan H. Thaxter.

Second Assistants.

Sarah A. Gallagher,
Juliette Smith,
Juliette Wyman.

Third Assistants.

Caroline Bernhard,
Martha G. Buckley,
Emma F. Crane,
Mary E. Downing,
Emma L. Eaton,
Harriet E. Johnston,
Jennie A. Mullaly,
Maria L. Nelson,
Mary R. Roberts.

Second Assistants, Primary Schools.

Nellie J. Cashman,
Ann E. Newell.

Fourth Assistants.

Alice W. Baker,
Julia S. Dolan,
Kate E. Fitzgerald,
Emma F. Gallagher,
Fanny W. Hussey,
Hannah L. McGlinchey,
Alice J. Meins,
Abbie C. Nickerson,
Ellen T. Noonan,
Hattie L. Rayne,
Mary G. A. Toland.

SHURTLEFF DISTRICT. (GIRLS.)

Greatest whole number belonging to Grammar School..... 710
Average whole number belonging to Grammar School..... 705
Entitled to 13 teachers.

Greatest whole number belonging to Primary Schools 407
Entitled to 7 teachers.

First Assistants.

Ellen E. Morse,
Anna M. Penniman.

Second Assistants.

Catherine A. Dwyer,
Martha E. Morse,
Emeline L. Tolman.

Third Assistants.

Julia F. Baker,
Roxanna N. Blanchard,
Jane M. Bullard.
Winnifred C. Folan.
Harriet S. Howes,
Edith A. Pope.
Marion W. Rundlett.
Anna L. Scallan.

Fourth Assistants.

Alice G. Dolbeare,
Isabel L. Marlowe,
Mary E. Morse,
Mary E. O'Connor,
Alice C. Ryan.

ON PROBATION.

Second Assistant, Primary School.

Lucy A. Dunham.

Fourth Assistant.

Lottie B. Lucas.

SEVENTH DIVISION.

COMINS DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School..... 647
Average whole number belonging to Grammar School..... 630
Entitled to 12 teachers.

Greatest whole number belonging to Primary Schools..... 483
Entitled to 9 teachers.

Sub-master.

William H. Martin.

Second Assistant.

Almira W. Chamberline.

Third Assistant.

Lizzie A. Colligan,
Martha A. Cummings,
Caroline A. Gragg,
Julia A. C. Gray,
Penelope G. Hayes,
Alice M. Johnson.
Alice A. Sanborn.

Second Assistant, Primary School.

Anna R. McDonald.

Fourth Assistants.

Sarah B. Bancroft,
Elizabeth P. Brewer,
Sabina Egan,
Jane E. Gormley,
Charlotte R. Hale,
Sarah E. Haskins.

ON PROBATION.

First Assistants.

Sarah E. Lovell.
Elizabeth G. Melcher.

Fourth Assistant.

Marcella M. Ryan.

DEARBORN DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School.....1032
Average whole number belonging to Grammar School.....1022
Entitled to 18 regular teachers, 1 special.

Greatest whole number belonging to Primary Schools.....1047
Entitled to 19 teachers.

Sub-master.

John C. Ryder.

First Assistants.

L. Anna Dudley,
Philena W. Rounseville.

Second Assistants.

Frances L. Bredeen,
Helen F. Brigham,
Martha D. Chapman.

Third Assistants.

Annie M. Backup,
Abbie L. Baker,
Bell J. Dunham,
Sarah H. Hosmer,
Sarah W. Loker,
Catherine M. Lynch,
Maria L. Mace,
Esther M. Meserve,
Mary J. Mohan,
Alice W. Peaslee,
Ida M. Presby,
Mary F. Walsh,
Lizzie M. Wood.

Second Assistants, Primary Schools.

Mary A. P. Cross,
Mary M. Sherwin.

Fourth Assistants.

Emma J. Backup,
Sarah S. Burrell,
Mary T. Cunningham,
Louise D. Gage,
Ada L. McKean,
Elizabeth D. Mulrey,
M. Agnes Murphy,
Kate A. Nason,
Mary E. Nason,
Mary F. Neale,
Abby S. Oliver,
Ellen M. Oliver,
Emily M. Pevear,
Susan F. Rowe,
Bridget E. Scanlan,
Abby W. Sullivan,
Mary K. Wallace.

DILLAWAY SCHOOL. (Girls.)

Greatest whole number belonging to Grammar School 704
Average whole number belonging to Grammar School 695
Entitled to 13 teachers.

Greatest whole number belonging to Primary Schools..... 403
Entitled to 7 teachers.

First Assistants.

Jane S. Leavitt,
Eldora A. Pickering.

Second Assistants.

Corinne Harrison,
Mary C. Whippey.

Third Assistants.

Eliza Brown,
Abby M. Clark,
Mary L. Gore,
Josephine A. Keniston,
Mary S. Sprague,
Lydia G. Wentworth.

Second Assistant, Primary School.

Anna M. Balch.

Fourth Assistants.

Alice G. Grundel,
Elizabeth Palmer,
Celia A. Scribner,
Mary L. Shepard,
Anna M. Stone,
Annie J. Whelton.

ON PROBATION.

Second Assistant.

Catherine J. Finneran.

Third Assistant.

Cordelia G. Torrey.

DUDLEY DISTRICT. (Boys.)

Greatest whole number belonging to Grammar School 736
Average whole number belonging to Grammar School..... 726
Entitled to 13 regular teachers, 1 special.

Greatest whole number belonging to Primary Schools..... 663
Entitled to 12 teachers.

Sub-masters.

Augustine L. Rafter,
W. E. C. Rich.

First Assistant.

Susie C. Lougee.

Second Assistant.

Harriet E. Davenport.

Third Assistants.

Ruth H. Brady,
Mary H. Cashman,
Annie N. Crosby,
Alice E. Farrington,
Ida S. Hammerle,
Abby S. Hapgood,
Helen C. Mills,
Edith F. Parry,
Maria E. Wood.

Second Assistant, Primary School.

Helen P. Hall.

Fourth Assistants.

Mary I. Chamberlin,
S. Louise Durant,
Ella T. Jackson,
Lizzie F. Johnson,
Delia T. Killion,
Hattie A. Littlefield,
Kate F. Lyons,
Sarah E. Rumrill,
Ella M. Seaverns,
Mary E. Watson,
Alice L. Williams.

ON PROBATION.

Amanda E. Henderson, *Third Assistant.*

GEORGE PUTNAM DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School..... 307
Average whole number belonging to Grammar School.... 296
Entitled to 5 teachers.

Greatest whole number belonging to Primary Schools..... 208
Entitled to 4 teachers.

Second Assistant.

Margaret Holmes.

Third Assistants.

Maria F. Bray,
Martha W. Hanley,
Ellen E. Leach.

Fourth Assistants.

Amoritta E. Esilman,
Josephine L. Goddard,
Alice M. May,
Isabella Shove.

ON PROBATION.

First Assistant.

Katharine W. Huston.

Third Assistant.

Anna G. D. Ellis.

LEWIS DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School.....717
Average whole number belonging to Grammar School.....708
Entitled to 13 teachers.

Greatest whole number belonging to Primary Schools..... 670
Entitled to 12 teachers.

Sub-master.

Charles F. King.

First Assistants.

Eunice C. Atwood,
Sarah E. Fisher.

Second Assistants.

Emily B. Eliot,
Amanda Pickering.

Third Assistants.

Emma F. Black,
Susan A. Dutton,
Martha C. Gerry,
Ellen M. Murphy,
Alice O'Neil,
Mary H. Thompson.

Fourth Assistants.

Adaline Beal,
Frances N. Brooks,
Helen Crombie,
Mary E. Deane,
Anna A. Groll,
Almira B. Russell,
Annie W. Seaverns,
Florence L. Shedd,
Isabel Thacher,
Eloise B. Walcott.

ON PROBATION.

Third Assistants.

Katie M. Groll,
Ellen F. A. Hagerty.

Fourth Assistants.

Caroline F. Seaver,
Alice M. Sibley.

LOWELL DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School..... 720
Average whole number belonging to Grammar School.....706
Entitled to 13 teachers.

Greatest whole number belonging to Primary Schools 662
Entitled to 12 teachers.

Sub-master.

Maurice P. White.

First Assistant.

Eliza C. Fisher.

Second Assistant.

E. Josephine Page.

Third Assistant.

Susan E. Chapman,
Rebecca Coulter,
Mary F. Cummings,
Anna M. Edmands,
Susan G. B. Garland,
Anna L. Hudson,
Mary E. Morse,
O. Augusta Welch.

Second Assistant, Primary School.

Caroline F. Cutler.

Fourth Assistants.

Sarah P. Blackburn,
Anna J. Bradley,
Mary J. Capen,
Lizzie F. Fickett,
Elizabeth T. Gray,
Jeannie B. Lawrence,
Ellen C. McDermott,
Fannie B. Wilson,
Helen O. Wyman.

ON PROBATION.

Second Assistant.

Mary E. Very.

Third Assistant.

Annie F. Sears.

Fourth Assistants.

Marguerite G. Brett.
Ella F. Howland.

MARTIN DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School.....610
Average whole number belonging to Grammar School.....603
Entitled to 11 teachers.

Greatest whole number belonging to Primary Schools..... 325
Entitled to 6 teachers.

First Assistant.

Emily F. Carpenter.

Second Assistant.

Annetta F. Armes.

Third Assistants.

Jane F. Gilligan,
Nellie I. Lapham,
Emma E. Lawrence,
Emily Swain,
Delia Upham.
Charlotte P. Williams.

Fourth Assistants.

Lena L. Carpenter,
Mary E. Crosby,
Fannie D. Lane,
Eleanor F. Lang,
Alicia F. McDonald,
Martha Palmer.

ON PROBATION.

Sub-master.

Edward W. Schuerch.

First Assistant.

Alanson H. Mayers.

Second Assistant.

Nellie W. Leavitt.

Third Assistant.

Anna F. Bayley.

EIGHTH DIVISION.

AGASSIZ DISTRICT. (Boys.)

Greatest whole number belonging to Grammar School 355
Average whole number belonging to Grammar School..... 347
Entitled to 6 teachers.

Greatest whole number belonging to Primary Schools ... .173
Entitled to 3 teachers.

First Assistant.

Mary A. Gott.

Second Assistant.

Clara J. Reynolds.

Third Assistants.

Mary A. Boland,
Sarah H. Drake,
Nellie J. Kiggen,
Mary E. Stuart.

Fourth Assistants.

Annie C. Gott,
Caroline D. Putnam,
Emma M. Smith.

ALLSTON DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School..... 541
Average whole number belonging to Grammar School..... .. 530
Entitled to 10 teachers.

Greatest whole number belonging to Primary Schools. 480
Entitled to 9 teachers.

Second Assistant.

Sarah F. Boynton.

Third Assistants.

Ella L. Bird,
Eliza F. Blacker,
Mary J. Cavanagh,
Mary F. Child,
Jessie W. Kelly,
Josephine Rice,
Alice A. Swett.

Fourth Assistants.

Anna N. Brock,
Helen L. Brown,
Ella L. Chittenden,
May L. Gooch,
Clara B. Hooker,
Emma F. Martin,
Adelaide C. Williams.

ON PROBATION.

First Assistant.

Alexander Pearson.

Second Assistant.

Marion Keith.

Third Assistant.

Annie E. Bancroft.

Fourth Assistant.

Gertrude R. Clark.

BENNETT DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School..... 552
Average whole number belonging to Grammar School..... 497
Entitled to 10 teachers.

Greatest whole number belonging to Primary Schools..... 327
Entitled to 6 teachers.

First Assistant.

Melissa Abbott.

Second Assistants.

Lily B. Atherton,
Fannie Potter.

Third Assistants.

Jeannie Bates,
Clara L. Harrington,
Annie M. Hotchkiss,
Kate McNamara,
Lillian M. Towne,
Helen I. Whittemore.

Second Assistant, Primary School.

Charlotte Adams.

Fourth Assistants.

Fannie W. Currier,
Emma P. Dana,
Anna L. Hooker,
Belle K. Sanger,
Margaret I. Scollans,
Eliza M. Warren.

ON PROBATION.

Sarah M. Taylor, *Third Assistant.*

CHARLES SUMNER DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School 413
Average whole number belonging to Grammar School 377
Entitled to 7 teachers.

Greatest whole number belonging to Primary Schools 335
Entitled to 6 teachers.

First Assistant.

Charlotte B. Hall.

Second Assistant.

Angie P. Nutter.

Third Assistants.

Elvira L. Austin,
Maud G. Leadbetter,
Mary E. Lynch,
Lina S. Weld.

Fourth Assistants.

Elizabeth Kiggen,
Dora M. Leonard,
Clara I. Metcalf,
Mary E. Roome,
Almira G. Smith,
Sallie B. Tripp.

ON PROBATION.

Third Assistants.

Alice M. Barton,
Harriet E. Tower.

Fourth Assistant.

Edith H. Sumner.

HILLSIDE DISTRICT. (Girls.)

Greatest whole number belonging to Grammar School 385
Average whole number belonging to Grammar School 361
Entitled to 7 teachers.

Greatest whole number belonging to Primary Schools 283
Entitled to 5 teachers.

First Assistant.

Amy Hutchins.

Second Assistant.

Louise P. Arnold.

Third Assistants.

Emily H. Maxwell,
Nellie F. Pingree,
Alice B. Stephenson,
Idella M. Swift.

Fourth Assistants.

Ida H. Adams,
Anna M. Call,
E. Augusta Randall,
Margaret E. Winton.

ON PROBATION.

Mary Bradley, *Third Assistant.*

MOUNT VERNON DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School 199
Average whole number belonging to Grammar School 183
Entitled to 4 teachers.

Greatest whole number belonging to Primary Schools.....130
Entitled to 2 teachers.

First Assistant.

Achsa M. Merrill.

Second Assistant.

Emily M. Porter.

Third Assistants.

J. Lillian Colson,
Jennie M. Jackson,
Francis R. Newcomb.

ON PROBATION.

Fourth Assistants.

Ella F. Parsons,
Mary C. Richards.

NINTH DIVISION.

DORCHESTER-EVERETT SCHOOL. (Boys and Girls.)

Greatest whole number belonging to Grammar School. 694
Average whole number belonging to Grammar School..... 686
Entitled to 12 regular teachers, 1 special.

Greatest whole number belonging to Primary Schools 635
Entitled to 11 teachers.

Sub-master.

George M. Fellows.

First Assistant.

Mary F. Thompson.

Second Assistant.

Helen M. Hills.

Third Assistants.

Sarah M. Bearse,
Harriet A. Darling,
Clara J. Doane,
Anna M. Foster,
L. Cora Morse,
Emma M. Savil,
Abbie E. Wilson.

Second Assistant, Primary School.

Elizabeth R. Wallis.

Fourth Assistants.

Caroline D. Bere,
Addie J. Callender,
Cora L. Etheridge,
Annie W. Ford,
Susie C. Hosmer,
M. Rosalia Merrill,
Matilda Mitchell,
Annie L. Newcomb,
Katharine Wark.

ON PROBATION.

Second Assistant.

Henrietta A. Hill.

Third Assistants.

Mary W. Currier,
M. Louise Foster.

Fourth Assistant.

Mary H. Reid.

GIBSON DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School..... 464
Average whole number belonging to Grammar School..... 453
Entitled to 8 teachers.

Greatest whole number belonging to Primary Schools..... 340
Entitled to 6 teachers.

Sub-master.

Horace W. Warren.

First Assistant.

Ida L. Boyden.

Second Assistant.

Ella S. Wales.

Third Assistants.

Fidelia A. Adams,
Charlotte E. Andrews,
Benjamin F. Brown,
Carrie L. Floyd,
Emma R. Gragg,
Caroline R. Shepard.

Fourth Assistants.

Ellen A. Brown,
E. Louise Brown,
Emma A. Cochran,
Mary E. Mann,
Marietta L. Valentine.

ON PROBATION.

Third Assistant.	*Fourth Assistant.*
Lucina Dunbar.	Florence M. DeMeritt.

HARRIS DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School..... 315
Average whole number belonging to Grammar School..... 285
Entitled to 6 teachers.

Greatest whole number belonging to Primary Schools..... 282
Entitled to 5 teachers.

Second Assistant.

E. Maria Harriman.

Third Assistants.

Almy C. Plummer,
Charlotte A. Powell.

Fourth Assistants.

Annie B. Drowne,
Elizabeth A. Flint,
Ida F. Kendall,
Alice M. Murphy,
Mary Waterman.

ON PROBATION.

Second Assistant.	*Third Assistant.*
Emma F. Simmons.	Cora I. Young.

MATHER DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School..... 475
Average whole number belonging to Grammar School..... 452
Entitled to 9 teachers.

Greatest whole number belonging to Primary Schools..... 434
Entitled to 8 teachers.

Sub-master.

Loea P. Howard.

First Assistant.

J. Annie Bense.

Third Assistants.

Mary B. Corr,
M. Esther Drake,
Lucy J. Dunnels.
Lillie A Hicks,
Mary A. Lowe,
Charlotte L. Voigt.

Fourth Assistants.

Florence J. Bigelow,
Ina F. Cook,
Elizabeth Donaldson,
Ella L. Howe,
Elizabeth C. White.

ON PROBATION.

Second Assistant.

Della G. Robinson.

Second Assistant, Primary School.

Ada K. Richards.

Fourth Assistants.

Mary E. Bradley,
Kate A. Howe.

MINOT DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School..... 324
Average whole number belonging to Grammar School..... 294
Entitled to 6 teachers.

Greatest whole number belonging to Primary Schools..... 225
Entitled to 4 teachers.

Second Assistant.

Gertrude P. Davis.

Third Assistants.

Sophia W. French,
Annie H. Gardner,
Mary E. Glidden,
Ellen M. S. Treadwell.

Fourth Assistants.

Hattie J. Bowker,
S. Maria Elliott,
Kate S. Gunn,
Annie T. Kelley,
Mary J. Pope.

ON PROBATION.

Second Assistant.

Kate M. Adams.

Third Assistant.

E. Gertrude Cushing.

STOUGHTON DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School..... 326
Average whole number belonging to Grammar School..... 319
Entitled to 6 teachers.

Greatest whole number belonging to Primary Schools..... 209
Entitled to 4 teachers.

First Assistant.

Elizabeth H. Page.

Second Assistant.

Isabel F. P. Emery.

Third Assistants.

Esther S. Brooks,
Minnie E. Gaskins,
Caroline F. Melville,
Carrie M. Watson.

Fourth Assistants.

Helen F. Burgess,
Gertrude L. Howard,
Maria A. Shields.

ON PROBATION.

Cornelia M. Collamore, *Fourth Assistant.*

TILESTON DISTRICT. (Boys and Girls.)

Greatest whole number belonging to Grammar School..... 84
Average whole number belonging to Grammar School..... 74
Entitled to 1 teacher.

Greatest whole number belonging to Primary School..... 87
Entitled to 2 teachers.

Third Assistant.

Martha A. Baker.

Fourth Assistant.

Elizabeth S. Fisher.

ON PROBATION.

Elizabeth K. Shea, *Fourth Assistant.*

SCHOOL DOCUMENT NO. 3 — 1887.

SEVENTH ANNUAL REPORT

OF THE

Superintendent of Public Schools

OF THE

CITY OF BOSTON.

MARCH, 1887.

BOSTON:
ROCKWELL AND CHURCHILL, CITY PRINTERS,
No. 39 ARCH STREET.
1887.

REPORT.

To the School Committee:

The Superintendent of Public Schools respectfully submits his seventh annual report:

STATISTICS.

The number of pupils belonging to the primary, grammar, high, and Latin schools, at the end of the last half year, January 31, 1887, was 58,334; an increase of 735 over the number belonging one year before. In the primary schools were 24,956 pupils, a gain of 68; in the grammar schools 30,592, a gain of 510; in the high schools 2,189, a gain of 105; and in the Latin schools 597, a gain of 52.

The normal school had 98 pupils not counted in the total here given.

The gain or loss in the number of pupils of each age is noted as follows:

Pupils' Age.	1886.	1887.	Difference.
Under Five	91	40	51 loss.
Five	3,079	2,620	459 loss.
Six	4,915	4,978	63 gain.
Seven	5,628	5,571	57 loss.
Eight	5,924	6,103	179 gain.
Nine	6,197	6,146	51 loss.
Ten	6,223	6,234	11 gain.
Eleven	6,025	6,074	49 gain.
Twelve	5,691	6,087	396 gain.
Thirteen	5,073	5,335	262 gain.
Fourteen	3,768	3,984	216 gain.
Fifteen	2,520	2,550	30 gain.
Sixteen	1,355	1,431	76 gain.
Seventeen	663	721	58 gain.
Eighteen	303	306	3 gain.
Nineteen or over	144	154	10 gain.
	57,599	58,334	735 gain.

There has been a remarkable gain in the number of pupils twelve, thirteen, and fourteen years old, and a remarkable loss in the number of those five years old.

The number of primary-school pupils nine or more years old has risen from 5,950 last year to 6,263 this year. All that can be said is that this undesirable change is going on at a diminished rate. The increase now noted amounts to 313; but for the three years before the last the increase averaged 415 pupils a year.

One cause of this undesirable increase in the num-

ber of older pupils in the primary schools is, undoubtedly, the growing practice among parents of keeping children five, six, and seven years old at home. This is indicated by the fact that for the last four or five years the statistics have shown a remarkable decrease in the number of younger pupils in the primary schools. Another cause may be that more proficiency in studies is now required for promotion to the grammar school than was required four or five years ago. If this be so the error ought to be corrected.

The presence of pupils, especially boys, who are eleven, twelve, and thirteen years old in primary schools ought not, it seems to me, to be tolerated any longer. Before children reach the age of eleven they should be removed from the primary schools and placed either in the sixth class of the grammar schools or in the ungraded class. The advantage of such a removal would be double. In the first place, the children so removed would be taught by themselves, and in a manner better suited to their age and circumstances; and in the second, the primary schools would be rid of pupils whose presence is always inconvenient and often seriously objectionable. The age of a pupil should always be one element to be considered in the question of his promotion; and this element may become so important, in certain cases, as to outweigh all the others. Something has been done, in recognition of this principle, by the Committee on Examinations, who have generally promoted from the primary schools pupils ten or more years of age, even when

such pupils failed on the examination. The principle should be somewhat further applied to those pupils who are not, as things now go, offered for examination. I trust this matter will receive the attention its importance demands from the principals and committees.

SCHOOL ATTENDANCE.

By the annual school census taken in May, 1886, there were in Boston 70,090 children from five to fifteen years of age. Of these, 54,426 went to the public schools;[1] 7,912 to private schools; and 7,752 were reported as not having attended school during the year. A table showing these particulars for each ward of the city is given in the Appendix, page 54.

Which wards of the city are gaining, and which losing, in the number of school children, may be learned from a table given in the Appendix, page 55.

The special investigation first made two years ago and repeated last year for the purpose of discovering the causes of the reported non-attendance has been made for the third time this year. The results are sub-

[1] The total number of pupils of all ages enrolled in the public schools during the year ended June 30, 1886, was reported to be 63,532. From this deducting 5,997, the estimated number of pupils in this enrolment too young or too old to have been counted in the census, we have left 57,535 as the total enrolment of pupils from five to fifteen years of age, which is 3,109 more than the census number. This difference, like that of last year, is too large to be satisfactory. Only a small part of this difference can be accounted for by the fact that children reported as non-attendants really did attend school during some part of the year. Imperfect census-taking will account for some more. But I am strongly inclined to suspect the existence of many duplications in the enrolment account, making the total enrolment considerably larger than it ought to be.

stantially like those of last year, except that there is a marked diminution in the number of cases in which the law requiring twenty weeks' attendance was certainly or probably disobeyed. This fact, taken in connection with the increased number of pupils in school twelve and thirteen years of age already pointed out, indicates an improved observance of the law.

There were, as above stated, 7,752 cases of non-attendance reported. Of these 5,625 were cases of children five or six years old; 909 more were cases of children fourteen years old; and the rest were the 1,218 cases to be investigated. The following table gives a summary of the results, the scheme of classification being the same as that of last year:

Classes of Non-Attendants.	Number of each Age.							Total.
	7	8	9	10	11	12	13	
(*a.*) Invalids, including those not vaccinated	134	78	35	31	28	42	46	394
(*b.*) Under care and instruction at home	242	19	2	7	2	3	5	280
(*c.*) Lately arrived	14	16	10	9	8	13	10	80
(*d.*) At work or at home, probably in non-compliance with the law	. . .	5	7	11	12	22	60	117
(*e.*) Transient, or moved away before September, 1886	30	8	6	6	6	9	9	74
(*f.*) Evidence conflicting:								
(1.) Cases left in doubt	. . .	1	2	3	3	14	39	62
(2.) Presumption of disobedience overcome	16	5	8	5	9	34	102	179
(*g.*) Not found, and miscellaneous,	7	7	1	4	1	2	10	32
Totals	443	139	71	76	69	139	281	1218

The cases of certain or probable failure to comply with the twenty weeks' attendance law include the 117 in class *d*, 62 in class *f*, and possibly a few in classes *e* and *g*; certainly not above 200 in all. This number is about one-quarter (26⅓%) of the number of children from eight to thirteen years of age reported as non-attendant. Last year this proportion was higher, and the year before still higher.

If to the number 200 we add one-third of the 909 reported fourteen-year-old non-attendants, we have 500 as the approximate number of failures to comply with the twenty weeks' attendance law. This is about 1⅓ per cent. of the number of children in the city to whom that law applies.

EMPLOYERS OF CHILDREN.

The truant-officers have visited the various places where children are employed, for the purpose of seeing that the laws relating to the employment of children are obeyed, and have reported such cases as seemed to call for action of any kind. There is one law, recently placed upon the statute book, the execution of which will require some attention from the truant-officers and the School Committee. It is Chapter 71 of the Acts of 1885, the language of which is as follows:

> Whoever, after notice from a truant-officer to refrain from so doing, offers a reward for service to any child in consequence of which reward such child is induced unlawfully to absent himself from school, or whoever after notice as aforesaid in any manner entices or induces any child to truancy, or whoever knowingly employs or harbors any unlawful absentee from school, or truant, shall

forfeit not less than twenty nor more than fifty dollars to the use of the public schools of the city or town in which said offence occurs, to be recovered by complaint.

There is good reason to believe that a few prosecutions under this law will be necessary in order to create a proper respect for its requirements. A printed form of notice for the use of the truant-officers was prepared a year ago, and notices have been served in a number of cases; but, in the absence of any regulation declaring what officer or officers shall be authorized and directed to enter complaint in case of non-observance of the law after due notice, further steps in the way of enforcement would seem to await the legislative action of the School Committee. It is, therefore, suggested that the framing of a regulation on this subject be made a matter for early consideration.

A SCHOOL NEEDED ON LONG ISLAND.

The census-taker reports: "There are twenty-seven children on Long Island between the ages of five and fourteen who have no school to go to." The attention of the School Committee was called to this matter last year, and an order was passed, June 8, 1886, requesting the City Council to furnish school accommodations on Long Island; but the City Council, in December of the same year, deemed it inexpedient to take any action at that time. In again calling attention to the neglected children on Long Island, it may be pointed out that the city appears to be neglecting or refusing to comply with

the requirements of the Public Statutes, Chapter 44, Section 46, which require the city "to provide and maintain a sufficient number of school-houses, properly furnished, and conveniently located for the accommodation of all the children therein entitled to attend the public schools."

One teacher and one room are needed.

ARITHMETIC IN THE PRIMARY SCHOOLS.

Some complaints about the difficulty of the questions set in arithmetic for the examination of the first classes in the primary schools moved me to inspect with some care the papers written in June, 1886. The right answers were counted for each of the one hundred twenty-five classes examined at that time. The result for the whole city may be stated as follows:

Whole number of answers to each question, 4,680.

Question 1. Henry had 19 apples. He gave 6 of these to Jane, 4 to John, and 5 to William. How many apples has he left?

Right answers, 4,321. Per cent., 93.3.

Question 2. Julia spent 5 hours a day at school for 5 days of one week, and 5 hours a day for 3 days of the next week. How many hours did she spend there in the two weeks?

Right answers, 2,783. Per cent., 59.5.

Question 3. Frank measured the width of two doors. He found that one was 36 *inches* wide, and that the other was 60 *inches* wide. How many *feet* wider was one door than the other door?

Right answers, 2,101. Per cent., 44.9.

Question 4. Mary's vacation will be 63 days long. She will spend $\frac{4}{9}$ of it at Hull. How many days will she spend there?

Right answers, 3,715. Per cent., 79.4.

QUESTION 5. A farmer's cows gave four hundred five quarts of milk. He sold three hundred sixty-eight quarts of this, and kept the remainder. How many quarts of milk did he keep?

Right answers, 3,689. Per cent., 78.8.

QUESTION 6. Mr. Allen has four flocks of sheep. In the first flock are 174 sheep; in the second flock, 123 sheep; in the third flock, 165 sheep; and in the fourth flock, 207 sheep. How many sheep has he in all?

Right answers, 4,055. Per cent., 86.6.

QUESTION 7. Saturday forenoon Rose sold 6 bunches of flowers, at 25 cents a bunch. In the afternoon she sold 10 bunches, at 25 cents a bunch. How many cents in all did she get for her flowers on Saturday?

Right answers, 1,886. Per cent., 40.3.

QUESTION 8. Mrs. White spent 390 cents for cloth, at 12 cents a yard. How many yards of cloth and what part of a yard did she buy?

Right answers, 2,612. Per cent., 55.8.

Average per cent. for the eight questions, 67.2.

The most difficult question appears to have been the seventh. The difficulty is in the number of steps necessary to arrive at the result. The course of thinking is too long for most of the children to carry through successfully. I noticed many papers in which children had taken one or two steps correctly but had stopped short of the final result. I think such questions as the seventh had better not be given in future.

The eighth question would have been answered well enough had there been no fraction of a yard in the result. Very many found a "remainder of six cents," but did not state "what part of a yard" was

bought with it. The answers to this question indicated quite clearly the ground that had been covered by the teaching. The widely differing per cents. showed that in some classes careful teaching, and in other classes little or no teaching had been given on such points as is suggested by the last clause of the question. While I do not think questions like the eighth, involving very simple fractions in connection with written work, are clearly beyond a proper standard of *teaching* in the primary schools, I believe it will be better to exclude them from *examination papers* henceforth.

The third question was not well answered; and the failure is due, I think, to a prevalent fault in the teaching. Every child in the classes examined is supposed to be provided with a foot-rule. How much is he taught to use it, in measuring things? Much less, I am sure, than is desirable. The course of study prescribes "Inch, foot, yard" among the very few common measures which are to be taught in the primary schools. Some teachers seem to suppose that children who can *say* "twelve inches make a foot, three feet make a yard," have *a knowledge* of yards, feet, and inches; and yet such children may have no real knowledge whatever.

I may suggest my meaning by relating an incident. A number of young women, graduates of common and high schools in Massachusetts towns, were undergoing a written examination in arithmetic. One of the questions was, "Find the area of the sheet of paper on which you are writing." A foot-rule lay on the desk before each of them. Most of them knew

not what to do, and so left the question unanswered. I suppose they all could have *said* the table of square measure, and could have answered any question made on the regulation pattern; but they had no knowledge that was good for use. So much does our current teaching run on mere words and forms that astonishing ignorance is often discovered just under the surface.

I think, therefore, that such questions as the third ought to be given until by better teaching the children gain a *real knowledge* of the few measures prescribed in the course of study. I am sure that the children who had done much measuring of things in and about the school-room had little difficulty, when they met the third question, in recognizing, at once, a door 36 inches wide as a door 3 feet wide, and another 60 inches wide as 5 feet wide; but to those who could only *say* "twelve inches make a foot," the question was undoubtedly hard. The effect of this question is to bring out quite clearly the contrast between nominal teaching and real teaching.

There is, of course, room for improvement in the teaching of arithmetic in the primary schools; but in justice I ought to add that a very marked improvement has of late taken place all over the city. This is seen by comparing the results I have just inspected with those inspected and reported upon by me four years ago. The number of classes which may be ranked "good" and "excellent" was greater in 1886 than it was in 1882, although the quality of the best work was about the same in both years. But the number of classes in which only passable or un-

satisfactory work was found is much smaller. The impression left on the mind, after the inspection of all the papers, is that of a general levelling up. The performances are more evenly good, and show more definiteness of aim in the teaching. The following is a summary on this point:

Per cents ranging from	Number of classes 1882.	Number of classes 1886.
90 to 100	1	3
80 to 90	8	17
70 to 80	25	40
60 to 70.	43	34
50 to 60	28	19
40 to 50	14	9
30 to 40	8	3
20 to 30	2	0
	129	125

To give the teachers who may read this an idea of the performances which are deemed "excellent" or "good," a few records of each kind are here transcribed. The largest classes are selected. The names, of course, are withheld; for I do not propose to publish a rank list of teachers or schools.

	Number of pupils in the class.	Number who had all their answers right.	Per cent. of right answers on each question.								Per cent. on the whole paper.
			1	2	3	4	5	6	7	8	
A.	53	27	100	85	75	96	96	100	70	94	90
B.	42	16	95	88	62	98	93	98	75	88	87½
C.	43	13	100	86	49	100	100	100	70	93	87
D.	50	24	100	82	70	98	98	94	58	92	86½
E.	37	10	92	73	78	95	95	95	46	95	83
F.	44	11	100	73	52	93	84	98	61	93	82
G.	31	5	97	90	29	97	100	100	45	100	82
H.	48	14	98	67	63	94	88	100	63	88	82
I.	47	8	100	98	89	100	81	83	28	68	81
J.	55	12	98	82	42	85	91	100	85	67	81
K.	56	10	95	61	43	91	96	98	73	82	80
L.	42	16	95	71	64	95	86	100	60	71	80
M.	53	9	92	73	42	92	94	85	66	72	77
N.	35	6	100	94	37	91	94	97	26	66	76
O.	52	13	100	69	77	75	77	85	38	83	75
P.	56	14	96	73	48	91	71	75	41	78	72
Q.	51	12	92	57	39	92	90	78	37	78	71
R.	43	7	93	51	35	81	77	91	51	79	70
S.	37	6	95	70	49	51	81	84	70	41	68
T.	42	10	90	55	50	79	79	74	33	67	66

EVENING SCHOOLS.

Members of the School Committee will find detailed information concerning each one of the evening schools in the manuscript reports made by the visiting supervisors. It may be truthfully said that this year's work is in no respect inferior to that of former years, and that in some respects it is distinctly superior.

There is still one school ill-placed, in a ward-room, when the rooms of the neighboring grammar school-house — the Phillips — might easily be made available.

All the other schools are placed in pleasant, well-lighted rooms.

The internal discipline has been good in all the schools, and no trouble has been experienced from outside sources, save in one instance, in which, however, application to the police commissioners was followed promptly by a disappearance of the troublesome sidewalk crowd from the neighborhood of the school.

The influence of a teacher, who, like the master or sub-master of a day school, knows well the young people of a district, may be very potent in preserving good order both inside and outside of an evening school. This has been proved by some examples this season. Hence one argument for the employment of day-school teachers in evening schools.

But I suppose it is not yet regarded as the settled policy of the School Committee to encourage both day and evening service from the same teachers. The employment of numerous day-school teachers in the evening high-school for the last two or three years has been asked for and allowed as an exceptional measure, under the stress of peculiar circumstances. This precedent has led to a similar course in relation to the evening elementary schools, so that several grammar masters and sub-masters have been in charge of evening schools in their own districts during the past season. What was at first allowed as a temporary and exceptional measure seems to be growing by continuance into a settled policy; and still the underlying question, what ought to be the settled policy, has not yet been debated and decided by the School Committee. Matters, however, have now gone so far,

that it would seem highly important that this should be done before another evening-school season opens.

The question is one upon which opinions may well differ, for there are good arguments on both sides. It is not necessary to review them, they are too familiar. For my own part, my desire to see the evening schools organized, disciplined, and taught in the best manner would lead me to favor the employment of day-school teachers in evening-school work, but under such restrictions that the day-school work should not suffer at all.

For example, a rule providing that sub-masters in grammar schools may be made principals of evening schools would, I think, be a positively good rule. The sub-masters in the grammar schools of Boston all are, or ought to be, candidates for the vacant masterships as they occur. But, as things are generally managed in the schools, the sub-masters have little or no opportunity to bring out their latent powers of organizing and managing a school. When the time comes for them to be promoted to a mastership, they have had little experience, in Boston at least, to fit them for the duties of that position. If they could be allowed to be principals of evening schools while waiting for promotion, not to do much of the teaching, but to organize and manage, they would gain a kind of experience that would make them more valuable afterwards, or, supposing them already valuable in that way, make their value earlier known. If any one class of our teachers is to be selected for evening work, let it be the sub-masters; they, more than any others, need the opportunity to expand and

develop their powers; they need such work to counteract the narrowing influence of their day work.

In the statistics of the evening high school may be noted a considerable falling off in the "total registration," and in the "number belonging," from month to month. This reduction in numbers is a wholesome change. It does not represent in the least a waning of interest among those for whom the school was intended; but it does represent the exclusion of a class of young people for whom the school was not intended — a class whose wants would be supplied by the elementary evening schools, if by any. A written examination, simple enough in its character, but carefully used, was enough to keep out this class of ill-conditioned pupils, and thus reserve the privileges of the school for those who would properly use them.

The principal and teachers of the evening high school, this year, deserve to be commended, not only for good general management, but also because of the regard they have had for economy in closing some of the classes as the numbers in the school fell off, so that the number of teachers allowed by the rules should not be exceeded. This reduction of the teaching force is a disagreeable necessity; but it is, nevertheless, a necessity, under the rules.

MUSIC.

In the grammar and primary schools the instruction in singing is given by the regular teachers with such aid and guidance as they receive from four special instructors, who visit each grammar school once

a fortnight and each primary school once a month. Twenty visits a year in the grammar schools and ten in the primary, less the number omitted by reason of holidays, one-session days, and other such causes, are all that the regular teachers can depend upon for whatever help they may need from the special instructors. Some teachers, of course, need such help much less than others do; while some could, if necessary, dispense with it altogether.

Ability on the part of regular teachers to teach singing in their own class-rooms is less unusual now than it formerly was. This is partly because the normal schools, where the teachers are trained, have been giving more attention to the development of such ability in their pupils; and partly because the aim of musical supervision has oftener been to prepare the regular teachers for doing the work, rather than to supplant them for the time being and do their work for them.

It cannot be said that this improved way of supervising is yet universally prevalent, or that its success is wholly satisfactory. In truth, what has been done in this way only shows the possibility and desirableness of doing more. But it has been made tolerably clear that the regular teachers, with proper aid and guidance, can do the work well; that children will learn the art of reading music under the daily instruction of their regular teachers better than they can in any other way; and that musical supervision produces the largest measure of good results when it is brought to bear on the teachers and through them on the pupils, rather than on the pupils directly. That special

instructor in music, therefore, will best fulfil the purpose of his appointment who shall best prepare the teachers whom he visits to give good instruction in their own classes.

But what is good instruction in singing? A word needs to be said as to the meaning of this expression. Certainly, something more is meant than teaching children by rote to sing songs; although this, if well done, and the songs are good, is a pleasant and inspiring exercise, always to be encouraged. Something more is meant, too, than drilling children in chorus for public exhibitions; although good singing by the school on such occasions is much to be desired. The meaning includes careful training in *the art of reading music from the notes;* a training which, with most children, in the time allowed, should result in ability to sing at sight, unaided by instrument or others' voices, simple pieces of music.

This does not seem like setting up a very high standard for grammar-school pupils, at the end of nine years' daily instruction; and yet a very moderate standard of this kind is all that a majority of our pupils can satisfy at present.

There are many who can sing when others around them are singing, but who alone cannot sing the simplest phrases. They are not really readers of music. They cannot sing from the notes, but depend on their ear. Would a boy or girl be counted a reader of language who could read only "in concert"? Then, there are many who can tell all about the staff, signatures, keys, flats, sharps, naturals, tones, semitones, notes, dotted notes, rests,

measures, kinds of time, and so on; but who cannot read music.

This technical knowledge of musical notation, although useful, nay indispensable to singers, does not of itself give ability to sing from notes: just as perfect knowledge of grammar and spelling-book would never make one a good reader of language. And yet, for many years past, the only official test which has been applied to our instruction in singing is *a written examination in the technicalities of musical notation*. The influence of such a test has undoubtedly been to lead teachers astray as to the real object of musical instruction. It has been a clear case of sacrificing the end to the means.

But written examinations in the technicalities of musical notation have been discontinued, never again, let us trust, to be allowed to figure as the sole or the chief test of our musical instruction. The proper test of this instruction is the one already suggested, namely, an ascertainment of the degree of facility and correctness with which each pupil sings from notes, at sight, and unaided by instrument or another's voice, pieces suited in point of difficulty to the amount of instruction he has had. And the aim of the instruction should be to enable pupils to satisfy tests of this character. The regular teachers themselves should apply such tests in all classes, frequently, even daily, just as is done in the reading of language, except that less time can be taken. The effect of such habitual testing of individuals would be to overcome in a great measure the want of confidence from which the older pupils now suffer.

At present, it must be confessed, the schools do not seem to be prepared to meet such tests, even very simple ones.

It may be said, of course, that the tests which were applied for the first time last summer[1] are unusual, unfamiliar, strange, and therefore apt to dismay the children; and that good results, under such circumstances, ought not to be expected. All this may be true; but it only shows how much the current methods of instruction need to be improved when easy tests designed to ascertain whether children can really sing from notes are found to be unsuited to them.

There is, I believe, little disposition in any quarter to deny that there is room for improvement in the music department of our schools; but, when we ask what measures can and ought to be taken to bring about improvement, we have a more difficult question to deal with. If we turn to the musical experts for advice we find some saying one thing and some another. Rival methods are urged on our attention, the advocates of each confidently assuring us that all will be well if only their method be adopted. Who shall decide when doctors disagree? Fortunately, as I believe, in this case, it is not necessary to decide the doctors' dispute; for they raise only theoretical questions, which are best left to musical periodicals and teachers' conventions to discuss; while the question which the School Committee has to decide is a wholly practical one, and such that non-

[1] See School Document No. 9, 1886.

professional, as well as professional persons will best settle by appeal to results.

There need be no difficulty in thus treating the questions; but it will require time. It is easy enough to conceive of two, three, or four good methods, all carried on at the same time in different quarters of the city, by different persons, and with good results. This is precisely what happens in other branches, notably in the language-reading of the primary schools. There are several approved methods by which beginners are taught to read; but when children have once learned to read it would puzzle any but an expert to detect by what method they had been taught. So in music. If children really learn to read music and to sing well why insist on a uniformity of method? Or, on the other hand, if results are everywhere unsatisfactory, what ground is there for setting up one method and throwing down all the others?

But it may happen, after a long enough trial, that one method proves its great superiority to all others. When the demonstration by results is thus made clear the intelligent non-professional person will have no difficulty in deciding which method to favor. The thing to be guarded against is a premature decision, resting not on a broad view of the results of different methods fairly tested, but on some promising theory persistently urged.

These general remarks are intended to apply to the present state of affairs in the music department. Last summer the School Committee adopted certain recommendations which grew out of the

results of an investigation that had been ordered "into the methods and efficiency of the instruction in music in the public schools, for the purpose of ascertaining whether there is a substantial uniformity in the results obtained, and whether any changes can be suggested which will be likely to improve this branch of the service, and to report what reorganization may be necessary to effect such improvement." (School Document No. 9, 1886.)

The principle which underlies the recommendations then made is the principle of freedom in methods and uniformity in the general course of work. The city was to be divided into as many parts (four) as there were special instructors of music in the primary and grammar schools, and each part was to be put in charge of one instructor, who was to have all practicable freedom in developing the methods he might think best. The report, on this point, says:

> Under this arrangement there is no divided responsibility for failure, and no disputed honors of success. Each instructor, working under a uniform course and for the attainment of definite standards of excellence, *but free as to methods*, and solely responsible for the efficiency of his work, would be in the position best calculated to engage all his ability and interest in his duties. He would have the satisfaction of seeing his work develop from beginning to end, and of *clearly demonstrating the excellence of his methods*.

The evidence in the report cited clearly shows that this recommendation was the only one that could have been made on good grounds. Not yet, certainly, has any one method proved so greatly

superior to all others that its exclusive adoption would be clearly desirable; nor has any method appeared to be so distinctly inferior that its suppression would seem to be called for. Whatever may be claimed for different methods on theoretical grounds, the practical demonstration by results, it must be confessed, appears to be, as yet, far from conclusive. Now, the recommendation in question was not intended to suggest a compromise of conflicting interests; nor does it propose to evade the theoretical questions involved in a choice of methods; but it does propose to postpone such questions or hold them open until they can be settled in a clearer light than now shines from experience. It proposes to put different methods on trial, to allow ample time for that trial, and to let future action be guided by the issue. The recommendation, therefore, is a positive, progressive measure, not a mere negative, temporizing expedient.

There are two methods, now much discussed, upon which the foregoing remarks may have a hearing. These may be called the Hohmann method and the modified Tonic Sol-Fa method. I may not have chosen the best names, but they will serve my present purpose.

The Hohmann method was successfully introduced in the Boston primary schools several years ago, and is well set forth and illustrated in the music readers now in use. It begins by furnishing the children with a stock of rote-learned tunes, songs, or snatches of songs, upon which it builds its subsequent instruction in the art of reading music from notes; a pro-

cedure very like a child's learning by rote to say the pieces in his primer, before ever opening his book to read.[1]

The use of this method, however, does not appear to be coextensive with the use of the books. Far from it, in this city. This is not surprising; for books do not necessarily control methods, though they may influence them. In fact, the greater number of our teachers either modify the method of the book to suit their purposes or discard it altogether. The chief value of the music readers, as of other readers, attaches, not to the methods set forth, but to the pieces they contain for reading.

The most important of these departures in method have been towards what I have called the modified Tonic Sol-Fa method. This method agrees in principle with the unmodified Tonic Sol-Fa, but discards the special notation, using the ordinary staff notation instead. The children are first made familiar with the eight sounds of the scale in their relations to one another, so as to recognize all the intervals and produce the sounds one after another in any order. Upon this knowledge is based the subsequent instruction in the staff notation and in the art of reading from notes. Tunes are first presented in the form of exercises to be read, not to be caught by the ear from an instrument or the teacher's voice. Most of the technical knowledge of musical notation is kept in the background during the earlier stages of the in-

[1] Not every one would consider this an absurd procedure. Indeed, I have recently examined a primer which was evidently prepared to exemplify just such a method of learning to read language.

struction, in order that the study of signs may not stand in the way of the study of the things signified.

Judged of in the light of accepted principles of teaching, the modified Tonic Sol-Fa method seems to be decidedly superior to the other; but in the light of actual experience its advantages have become apparent, as yet, only in the earlier stages of instruction. In the more advanced stages it appears not to have been fully applied or developed. Whether this incompleteness is because full opportunity has not been given or because there are limitations inherent in its very nature, is an open question, which further experience alone can determine.

Each of these methods has earnest advocates, not only among music-teachers, but among the regular teachers of our schools. Hence earnest discussion of their relative merits must be expected. Such discussion, conducted in a right spirit, — never degenerating into personal controversy, — is beneficial, promotes progress, and helps the truth to manifest itself. In the end all the teaching will be the better for it.

Such are the principal reasons which led to the recommendations made last summer, and which would seem to justify the course since pursued by the School Committee in the matter of special instruction in music. With the principle of liberty, as to methods, a harmonious working to a common end ought to be possible. Personal feelings apart, there would seem to be no reason why the professors of different methods should not work side by side in fair competition, the schools

receiving the benefit of all the improvements made. At the end of two or three years one of two things would probably come to pass: either the superiority of one method would become so manifest as to leave no doubt about its claim to exclusive use thereafter; or there would be two or more excellent methods, all giving satisfactory results, so that no reason would exist for discarding one rather than another. It is not probable that an inferior method would survive such a trial. Thus, through variety in method, we may have life and growth; but from prescribed uniformity might come deadness or imperfect development.

It appears to be highly desirable, therefore, that the present arrangements in the music department may be allowed to continue, for a time at least, undisturbed; and that, meanwhile, the results in different quarters of the city be carefully watched.

KINDERGARTEN.

One duty of the Superintendent is to "keep himself acquainted with the progress of instruction and discipline in other places, in order to suggest appropriate means for the improvement of the public schools in this city." It is in the line of this duty that I have in former reports suggested how great and desirable an improvement would result from the establishment of the kindergarten as an organic part of our system of public instruction.

It is true that the financial conditions are not favorable at present to the making of costly im-

provements; and this improvement would entail increased expenditure, because the public kindergarten would draw within the sphere of public instruction many children five or six years old who are not now sent to school at all. I have pointed out elsewhere the fact that our primary schools have been losing in the number of youngest pupils for some years past. The establishment of the kindergarten as a part of the primary school would undoubtedly recall these youngest children, and bring many more with them.

But expense is not the only question to be considered. The main question is, whether the measure of benefit to be secured for thousands of children is sufficient to justify the necessary expense. No one will maintain that retrenchment in school expenditures ought to be made by keeping out of the schools any class of children who would be benefited by being in them; and, on the same principle, obvious improvements ought not to be too long delayed from unwillingness to increase expenditures.

The example of other places is worthy of consideration. In one large city, St. Louis, the kindergarten has been established for some years as a part of the public school system, and the results are described as highly satisfactory. In another, Philadelphia, after a briefer trial in private hands than has been made in Boston, it has recently been adopted by the public authorities. There are smaller cities and towns in which the first stages of public instruction are given in the kindergarten. These things indicate

which way to look for further improvement in the schools of this city.

There never was a better time than the present in this city for studying the kindergarten question practically. Mrs. Shaw's kindergartens may be seen and studied in different parts of the city. They have been in operation now for some six or seven years. It needs but a few visits to them to convince the observer of their great usefulness. For my own part, I may say that these practical exemplifications of Froebel's principles have had more to do with my forming a favorable opinion of the kindergarten than any amount of theoretical discussion would have had. At first, I must confess, I felt a certain prejudice against the kindergarten, looking upon it as a kind of play-school well enough suited to amuse the children, but not likely to develop their mental powers appreciably. My error was in looking upon it as a substitute for the primary school. I now see that it can be a substitute for only the earlier part of the primary school, and, what is most important, that its most fruitful relation to the primary school grows out of the admirable preparation it gives for regular school work.

What appears to be play in the kindergarten exercises is not mere play: it is like play in its spontaneity, but it is under rational guidance and control; it is the self-activity of the child under training for both the intellectual and the moral results, knowledge and self-control.

In the kindergarten are found the beginnings of all the kinds of school discipline that are to come

later. The observing powers are awakened; imagination and invention are stimulated; skill in representation and construction is developed; elementary notions of form and number are imparted; and facility in oral expression is cultivated. Add to this the habits of neatness and order, of politeness, of self-restraint, of attention, and of patience which the kindergarten cultivates, not by compulsion, but by rational guidance of the child's native impulses, and we have the elements of the discipline which makes the kindergarten so valuable as a preliminary to the usual school work.[1]

It is not my purpose now to go into a long discussion of this interesting topic, but only to introduce a suggestion which I hope the School Committee may be willing to adopt. The suggestion is, that a special committee be appointed to make full investigation of the kindergarten question in all its bearings; to hear all parties interested, both those who favor and those who may not favor making the kindergarten a part of the public school system; to

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[1] Dr. Wm. T. Harris, for many years superintendent of the public schools in St. Louis, concludes a long and very able discussion of this subject in the following language:

"The advantage to the community in utilizing the age from four to six; in training the hand and eye; in developing habits of cleanliness, politeness, self-control, urbanity, industry; in training the mind to understand numbers and geometric forms; to invent combinations and shapes, and to represent them with the pencil, — these and other valuable lessons in combination with their fellow-pupils and in obedience to the rule of their superiors, — above all, the useful suggestions as to methods of instruction which will come from the kindergarten and penetrate the methods of the other schools, — will, I think, ultimately prevail in securing to us the establishment of this beneficent institution in all the city school systems of the country." — *Annual Report St. Louis Public Schools, 1879.*

witness the actual working of kindergarten methods and examine the results; and finally, to recommend what may seem to be the best policy for the city to adopt, and the best way of carrying it out.

TEACHERS' TENURE OF OFFICE.

Recommendations on this subject have been made in a recent report of the Board of Supervisors, so that I have no call to discuss it here; but I wish in a few words to express my strong hope that, whatever else may be done, one result of the pending deliberations may be the doing away with the objectionable features of the annual election. Reason about it as we may, the fact remains that a feeling of dread at the approach of that ordeal lurks in the breast of many an able and faithful teacher. It is not easy for the most philosophic mind to overcome the feeling of humiliation which a record of adverse votes produces. It is not as if the School Committee were a political body, filling political offices by publicly voting for or against candidates. Adverse votes from political opponents are expected as a matter of course. Everybody understands the motive with which such votes are given. But an adverse vote on the question of reëlecting a teacher implies something very different; it implies dissatisfaction with him or his work; and it goes to the damage of his professional reputation and the weakening of his influence over his school. So long as a teacher is retained in his place he ought to have reason to feel, and the public ought to understand, that he has

the undivided support of the School Committee. Without such support, the ablest teacher may fail; with it, good service may be done, even by teachers of moderate ability.

But, it may be asked, how is the inefficient teacher to know that dissatisfaction with him exists, without the annual ballot; to which the answer is, first, that even if a ballot must be had no public record of it needs to be made; and, second, that there is a much more considerate and dignified way of imparting the unwelcome intelligence. A teacher, who for any cause is not giving satisfaction, should be called to an interview with the committee in charge of his school; he should there be told fully and frankly what the causes of dissatisfaction are; usually he would be allowed the opportunity to remove those causes; but failing in that, supposing him to be guilty of no unrighteousness, he would be allowed to resign.

Doing away with the annual election does not in the least impair the power the School Committee now possesses of dismissing at any time, and without giving reasons, any or all teachers in the service. Nor is it easy to see how the electing of teachers to serve during the pleasure of the School Committee is going to make members any less watchful against the retention of unsatisfactory teachers. As things now are, a member may feel that he has discharged his whole duty by casting an adverse vote, and, perhaps, inducing some other members to do so too; but such adverse votes are usually ineffectual; they only annoy and humiliate the subject of them; rarely do they become numerous enough to displace him. Take

away the opportunity to express dissatisfaction thus vainly, and members will naturally feel bound to make known their objections to the committee having immediate jurisdiction over the teacher concerned. Then the teacher being informed of such objections, could remove either them or himself. Instances are easily recalled in which this method would have been no less effectual, and much more merciful, than the method by ballot.

It may be urged, of course, that teachers in Boston practically enjoy a permanent tenure now; and that the new law and new regulations cannot make it more so. True, that is the fair inference from the recorded facts, and cool reason would advise contentment; but it is not wholly a question of reason; it is a question of feeling, of professional pride, of personal dignity. What the teachers want is not so much a greater probability of retaining their positions a long time, as it is freedom from the annoyance, dread, and humiliation needlessly caused by the present method of continuing them in their places.

A tenure free from these untoward incidents will make public school-teaching more attractive than it now is to the best teaching talent in the land; it will place those now in the schools under the fullest obligation to render their best service; it will give the amplest scope and encouragement for professional improvement; and finally, as a consequence of all this, the schools will be better.

EDWIN P. SEAVER,
Superintendent.

STATISTICS

FOR THE

HALF-YEAR ENDING JANUARY 31, 1887.

SUMMARY.

January, 1887.

General Schools.	No. Schools.	No. of Teachers.	Average No. Pupils Belonging.	Average Attendance.	Average Absence.	Per cent. of Attendance.	No. at date.
Normal	1	5	109	101	8	93.0	98
Latin and High	10	101	2,835	2,699	136	95.2	2,786
Grammar	52	680	30,689	28,096	2,593	91.5	30,592
Primary	467	467	24,540	21,189	3,351	89.6	24,956
Totals	530	1,253	58,173	52,085	6,088	89.7	58,422

Special Schools.	No. Schools.	No. of Teachers.	Average No. Pupils Belonging.	Average Attendance.	Average Absence.	Per cent. of Attendance.	No. at date.
Horace Mann	1	10	75	64	11	85.	75
Evening High	1	20	1,389	1,147	....	....	....
Evening	14	95	2,034	1,195	....	....	....
Evening Drawing	5	23	570	513	....	....	....
Spectacle Island	1	1	18	17	....	....	....
Totals	22	149	4,086	2,936	....	....	....

SCHOOLS AND TEACHERS.

	Teachers.		
	Males.	Females.	Total.
Normal School	1	3	4
Latin School	13	.....	13
English High School	19	.....	19
Girls' High School	1	19	20
Girls' Latin School	1	5	6
Roxbury High School	2	5	7
Dorchester High School	2	4	6
Charlestown High School	1	6	7
West Roxbury High School	1	3	4
Brighton High School	1	2	3
East Boston High School	1	4	5
Grammar Schools	96	550	646
Primary Schools	.....	467	467
Totals	139	1,068	1,207

SPECIAL SCHOOLS AND TEACHERS.

Schools.	Males.	Females.	Total.
Horace Mann School	.....	9	9
Evening Schools	57	58	115
Evening Drawing Schools	16	7	23
French and German: High Schools	3	.....	3
Music: High, Grammar, and Primary Schools	5	.....	5
Illustrative Drawing, Normal School	.....	1	1
Drawing: High and Grammar Schools	1	.....	1
Instructor in Hygiene	1	.....	1
Sewing	.....	29	29
Chemistry: Girls' High School	.....	1	1
Laboratory Assistant: Girls' High School	.....	1	1
Vocal and Physical Culture: Girls' High School	.....	1	1
Vocal and Physical Culture: Girls' Latin School	.....	1	1
Military Drill: High Schools	1	.....	1
Instructor in Manual Training School	1	.....	1
Instruction in Cooking School	.....	1	1
Spectacle Island	.....	1	1
Totals	85	110	195

NORMAL AND HIGH SCHOOLS.

Semi-Annual Returns to January 31, 1887.

Schools.	Average whole Number.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Head-Masters.	Masters.	Junior Masters.	Asst. Principals.	First Assistants.	Second Assts.	Assistants.
	Boys.	Girls.	Total.	Boys.	Girls.	Total.									
Normal	...	109	109	..	101	101	8	93.	1	.	.	.	1	2	.
Latin	414	...	414	401	...	401	13	97.	1	7	5	.	.	.	.
Girls' Latin	...	155	155	..	147	147	8	94.	.	1	.	.	.	.	5
English High	622	...	622	599	...	599	23	96.	1	9	9	.	.	.	.
Girls' High	...	713	713	..	677	677	36	95.	1	.	.	1	1	.	17
Roxbury High	84	162	246	81	151	232	14	95.	1	.	.	.	1	.	5
Dorchester High	50	108	158	47	98	145	13	93.	.	1	.	.	1	.	4
Charlestown High	63	160	223	61	149	210	13	94.	1	.	.	.	.	.	6
West Roxbury High	29	60	89	26	56	82	7	92.	.	1	.	.	.	.	3
Brighton High	24	43	67	23	41	64	3	95.	.	1	.	.	.	.	2
East Boston High	68	80	148	66	76	142	6	96.	.	1	.	.	.	.	4
Totals	1,354	1,590	2,944	1,304	1,496	2,800	144	95.	6	21	14	1	4	2	46

NORMAL, LATIN, AND HIGH SCHOOLS, CLASSIFICATIONS AND AGES, JANUARY 31, 1887.

	First-year class.	Second-year class.	Third-year class.	Fourth-year class.	Fifth-year class.	Sixth-year class.	Whole number at date.	11 years.	12 years.	13 years.	14 years.	15 years.	16 years.	17 years.	18 years.	19 years.	20 years.	21 years and over.
Normal	77	21	...	...	...	...	98	...	...	...	...	...	...	2	17	29	26	24
Latin	115	85	60	57	45	42	[1]445	7	34	63	88	94	69	40	30	13	4	3
Girls' Latin	31	47	28	19	14	13	152	2	7	23	22	25	34	22	6	7	3	1
English High	239	207	148	7	...	...	601	...	...	10	69	157	177	140	41	7	...	...
Girls' High	288	147	130	120	...	...	685	...	...	4	36	125	161	147	123	62	20	7
Roxbury High	107	84	51	...	...	...	242	...	...	2	29	50	85	51	24	1	...	...
Dorchester High	58	58	35	...	...	...	151	...	...	2	15	41	41	36	11	4	1	...
Charlestown High	108	61	46	...	...	...	215	...	...	1	26	50	67	44	18	9	...	...
West Roxbury High	36	30	18	...	...	...	84	...	...	1	7	18	28	21	7	2	...	...
Brighton High	36	17	14	...	...	...	67	...	...	...	5	15	22	15	6	3	1	...
East Boston High	67	46	31	...	...	...	144	...	...	3	9	36	30	42	18	6	...	...
Totals	1,162	803	561	203	59	55	2,884	9	41	109	306	611	714	560	301	143	55	35
Percentages	40.3	27.8	19.5	7.	2.1	1.9	100	.3	1.4	3.8	10.6	21.2	24.8	19.4	10.4	5.	1.9	1.2

[1] Including 41 pupils in out-of-course class.

NORMAL AND HIGH SCHOOLS.

Number of Pupils to a Teacher, excluding Principals, January 31, 1887.

Schools.	No. of Reg. Teachers.	Average No. of Pupils.	Av'ge No. of Pupils to a Regular Teacher.
Normal	3	109	36.3
Latin	12	414	34.5
Girls' Latin	5	155	31.0
English High	18	622	34.1
Girls' High	19	713	37.1
Roxbury High	6	246	41.0
Dorchester High	5	158	31.6
Charlestown High	6	223	37.2
West Roxbury High	3	89	29.7
Brighton High	2	67	33.5
East Boston High	4	148	37.0
Totals	83	2,944	35.5

ADMISSIONS SEPTEMBER, 1886.

NORMAL SCHOOL.

Schools.	Number Admitted.	Average Age.	
		Years.	Months.
Girls' High School	59	19	4
From other sources	21	19	2
Totals	80	19	4

High School Graduates, June, 1886, Girls, 291.

LATIN AND HIGH SCHOOLS.

Schools.	Admitted.		From Grammar Schools.	From other Sources.	Totals.	Average Age.	
	Boys.	Girls.				Years.	Mos.
Latin	166	....	131	35	166	14	1
Girls' Latin	....	59	47	12	59	14	3
English High	287	....	244	43	287	15	4
Girls' High	....	373	318	55	373	16	3
Roxbury High	41	73	111	3	114	15	2
Dorchester High	26	48	61	13	74	15	5
Charlestown High	35	87	118	4	122	15	8
West Roxbury High	14	24	37	1	38	15	7
Brighton High	14	22	33	3	36	15	7
East Boston High	37	39	73	3	76	16	4
Totals	620	725	1,173	172	1,345	14	4

GRAMMAR SCHOOLS.

Semi-Annual Returns to January 31, 1887.

Schools.	Average whole Number.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Masters.	Sub-Masters.	1st Assistants.	2d Assistants.	3d Assistants.
	Boys.	Girls.	Total.	Boys.	Girls.	Total.							
Adams	363	154	517	332	140	472	45	91.	1	1	1	1	7
Agassiz	347	. . .	347	318	. . .	318	29	92.	1	.	1	1	4
Allston	273	257	530	250	223	473	57	89.	1	.	1	2	8
Andrew	405	338	743	379	312	691	52	93.	1	1	2	2	9
Bennett	238	260	498	224	243	467	31	94.	1	.	1	2	6
Bigelow	842	. . .	842	800	. . .	800	42	95.	1	2	1	1	11
Bowdoin	. . .	361	361	. . .	325	325	36	90.	1	.	2	1	6
Brimmer	660	. . .	660	598	. . .	598	62	91.	1	2	1	1	10
Bunker Hill	299	375	674	279	343	622	52	92.	1	1	2	2	8
Chapman	291	312	603	275	294	569	34	94.	1	1	2	2	7
Charles Sumner	212	197	409	191	178	369	40	90.	1	.	1	1	7
Comins	288	341	629	269	315	584	45	93.	1	1	2	1	7
Dearborn	505	524	1,029	470	484	954	75	93.	1	1	2	3	13
Dillaway	. . .	695	695	. . .	624	624	71	90.	[1]1	.	2	3	7
Dorchester-Everett	334	350	684	312	315	627	57	92.	1	1	1	2	9
Dudley	726	. . .	726	684	. . .	684	42	94.	1	2	1	1	10
Dwight	698	. . .	698	643	. . .	643	55	92.	1	2	1	1	9
Eliot	979	. . .	979	862	. . .	862	117	88.	1	3	1	1	15
Emerson	381	282	663	355	257	612	51	92.	1	1	2	2	8
Everett	720	. . .	720	666	. . .	666	54	93.	1	.	2	3	9
Franklin	. . .	691	691	. . .	632	632	59	92.	1	.	2	3	9
Frothingham	314	305	619	286	265	551	68	89.	1	1	2	2	7
Gaston	. . .	551	551	. . .	503	503	48	91.	1	.	2	1	7
George Putnam	154	143	297	147	131	278	19	94.	1	.	.	1	4
Gibson	224	228	452	209	202	411	41	91.	1	1	1	1	7
Hancock	. . .	548	548	. . .	488	488	60	89.	1	.	2	2	7
Harris	143	138	281	134	125	259	22	92.	.	1	.	2	3
Harvard	322	307	629	304	278	582	47	93.	1	1	2	2	7

[1] Female Principal.

GRAMMAR SCHOOLS. — *Continued.*

Schools.	Average whole Number.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Masters.	Sub-masters.	1st Assistants.	2d Assistants.	3d Assistants.
	Boys.	Girls.	Total.	Boys.	Girls.	Total.							
Hillside	. . .	373	373	. . .	330	330	43	89.	1	.	1	1	5
Hyde	. . .	604	604	. . .	553	553	51	91.	1	.	2	2	8
Lawrence	935	. . .	935	886	. . .	886	49	95.	1	3	1	1	13
Lewis	350	358	708	325	334	659	49	93.	1	1	2	2	8
Lincoln	851	. . .	851	795	. . .	795	56	93.	1	2	1	1	12
Lowell	362	342	704	329	303	632	72	90.	1	1	1	2	9
Lyman	413	159	572	372	144	516	56	90.	1	1	2	2	7
Martin	259	344	603	243	321	564	39	93.	1	1	2	2	7
Mather	232	237	469	211	209	420	49	89.	1	1	1	1	6
Minot	158	143	301	145	131	276	25	92.	1	.	.	2	5
Mt. Vernon	93	102	195	87	90	177	18	91.	.	1	1	1	3
Norcross	. . .	663	663	. . .	604	604	59	91.	1	.	2	3	9
Phillips	751	. . .	751	693	. . .	693	58	92.	1	2	1	1	10
Prescott	277	258	485	212	235	447	38	92.	1	1	1	1	6
Prince	270	235	505	240	203	443	62	87.	1	1	1	1	6
Quincy	541	. . .	541	472	. . .	472	69	87.	1	2	1	1	8
Rice	582	. . .	582	540	. . .	540	42	93.	1	2	1	1	7
Sherwin	569	. . .	569	516	. . .	516	53	91.	1	1	1	1	8
Shurtleff	. . .	702	702	. . .	639	639	63	91.	1	.	2	3	8
Stoughton	167	152	319	152	135	287	32	90.	1	.	1	1	4
Tileston	39	39	78	36	35	71	7	92.	.	.	1	.	1
Warren	331	352	683	318	335	653	30	96.	1	1	2	2	8
Wells	. . .	474	474	. . .	425	425	49	90.	1	.	2	1	6
Winthrop	. . .	947	947	. . .	834	834	113	89.	1	.	2	5	11
Totals	16,848	13,841	30,689	15,559	12,537	28,096	2,593	91.5	49	44	72	85	396

GRAMMAR SCHOOLS.

Number of Pupils in each Class, Whole Number, and Ages, January 31, 1887.

Schools.	First Class.	Second Class.	Third Class.	Fourth Class.	Fifth Class.	Sixth Class.	Ungraded Class.	Whole number.	Under eight years.	Eight years.	Nine years.	Ten years.	Eleven years.	Twelve years.	Thirteen years.	Fourteen years.	Fifteen years.	Sixteen years.	Seventeen years.	Eighteen years and over.
Adams	39	49	109	113	112	100	. . .	522	. . .	4	37	75	81	107	95	72	34	12	5	. . .
Agassiz	27	35	57	114	53	59	. . .	345	. . .	9	35	40	68	58	59	52	16	6	2	. . .
Allston	41	42	100	100	105	140	. . .	528	. . .	17	63	84	87	94	76	45	45	12	5	. . .
Andrew	40	56	103	100	267	167	. . .	733	. . .	12	61	116	131	130	121	96	44	16	6	. . .
Bennett	40	51	112	109	122	63	. . .	497	. . .	10	35	84	82	88	88	54	36	15	5	. . .
Bigelow	52	52	109	223	229	175	. . .	840	1	35	84	134	154	153	130	92	48	9	. . .	. . .
Bowdoin	29	40	74	42	92	93	. . .	370	. . .	. . .	24	40	58	78	60	55	33	12	6	4
Brimmer	36	51	93	100	154	184	46	664	. . .	16	50	99	129	121	110	78	35	18	7	1
Bunker Hill	43	49	102	104	162	168	33	661	. . .	10	47	90	126	131	120	77	45	15	1	1
Chapman	48	54	98	104	152	153	. . .	609	1	16	49	85	108	84	91	82	53	31	9	. . .
Charles Sumner	27	29	41	85	103	122	. . .	407	. . .	12	41	61	70	86	54	48	28	6	. . .	1
Comins	49	99	99	99	167	118	. . .	631	1	10	51	92	137	116	110	52	34	20	8	. . .
Dearborn	51	122	158	180	228	231	52	1,022	1	16	90	141	183	176	195	137	59	19	5	. . .
Dillaway	47	74	146	177	124	130	. . .	698	1	11	67	95	131	129	127	74	46	12	5	. . .
Dorchester-Everett	50	56	119	131	139	145	47	687	. . .	6	50	93	109	114	125	102	63	20	5	. . .
Dudley	55	91	102	109	167	168	37	729	. . .	20	56	106	141	155	114	71	51	11	1	3
Dwight	46	102	102	167	115	121	44	697	2	4	65	110	95	140	117	87	48	25	3	1
Eliot	35	101	123	177	199	200	129	964	3	32	93	153	187	186	154	103	36	13	3	1
Emerson	40	74	117	133	143	150	. . .	657	. . .	9	35	83	120	147	107	87	45	19	5	. . .
Everett	53	111	167	109	149	110	27	726	. . .	9	52	93	116	129	146	92	56	27	5	1
Franklin	47	106	101	136	148	133	. . .	671	. . .	10	40	94	115	129	117	79	54	26	7	. . .
Frothingham	41	44	105	105	107	168	36	606	. . .	4	30	98	129	127	112	69	28	8	1	. . .
Gaston	40	49	101	109	118	139	. . .	556	1	9	43	82	83	100	88	84	41	20	5	. . .

George Putnam . .	22	69	50	52	57	55	. . .	305	. . .	8	40	47	51	52	44	38	15	9	1	. . .
Gibson	40	59	74	93	106	89	. . .	461	. . .	5	47	59	73	81	76	72	36	10	2	. . .
Hancock	43	42	44	105	96	128	84	542	3	22	61	92	112	83	86	49	20	9	5	. . .
Harris	23	40	49	58	52	57	. . .	279	. . .	3	14	21	49	52	54	43	29	9	2	. . .
Harvard	50	86	113	104	112	125	43	633	. . .	10	31	80	111	124	124	86	49	16	2	. . .
Hillside	30	63	54	57	85	73	. . .	362	. . .	6	24	57	62	57	66	53	25	10	1	1
Hyde	37	43	147	110	109	114	34	594	. . .	9	45	87	109	116	93	83	36	11	4	1
Lawrence	54	107	109	185	215	220	35	925	1	15	77	174	177	206	161	78	30	6	. . .	. . .
Lewis	90	113	109	114	114	112	56	708	. . .	4	42	119	120	123	130	85	51	24	9	1
Lincoln	45	91	104	168	174	221	39	842	. . .	12	68	141	132	161	156	106	51	13	2	. . .
Lowell	60	84	107	112	171	173	. . .	707	. . .	18	64	118	130	157	117	73	27	2	1	. . .
Lyman	27	54	71	80	149	148	38	567	. . .	10	29	86	113	123	90	65	32	19	3	. . .
Martin	43	88	97	112	130	131	. . .	601	1	20	63	79	93	102	94	65	52	27	5	. . .
Mather	33	55	52	111	103	112	. . .	466	1	10	40	63	72	86	84	68	32	8	1	. . .
Minot	24	41	45	52	48	53	35	298	. . .	13	25	45	51	55	43	37	20	9	. . .	. . .
Mt. Vernon	22	23	25	34	45	47	. . .	196	1	3	21	31	35	42	21	28	12	2	. . .	. . .
Norcross	42	42	98	37	155	132	46	652	. . .	7	57	90	123	143	98	78	39	8	1	. . .
Phillips	44	53	108	163	168	170	32	738	. . .	10	64	94	143	1 6	127	87	34	9	4	. . .
Prescott	32	54	52	112	127	118	. . .	495	. . .	5	34	68	87	89	102	50	46	13	1	. . .
Prince	52	57	112	100	95	91	. . .	507	. . .	8	35	61	84	94	82	71	50	21	1	. . .
Quincy	34	45	92	93	93	158	21	536	2	13	60	73	116	108	97	58	7	2	. . .	. . .
Rice	45	50	104	146	120	98	35	598	1	9	44	91	127	110	98	66	37	12	. . .	1
Sherwin	32	50	101	113	122	122	37	577	. . .	17	52	87	119	132	77	53	22	15	2	1
Shurtleff	58	55	97	100	226	167	. . .	703	2	19	82	102	128	119	111	91	39	6	4	. . .
Stoughton	20	58	51	77	64	55	. . .	325	1	10	24	52	48	59	58	39	27	5	1	1
Tileston	7	6	17	12	11	22	. . .	75	. . .	2	14	17	11	11	8	6	5	1	. . .	. . .
Warren	43	60	110	164	116	161	37	691	1	11	60	89	122	112	120	91	57	21	5	2
Wells	33	47	52	92	95	115	28	462	. . .	9	36	73	65	95	84	52	30	14	4	. . .
Winthrop	65	97	112	216	167	222	48	927	2	23	86	134	153	171	150	116	56	34	1	1
Totals	2,126	3,269	4,794	5,898	6,680	6,726	1,099	30,592	27	592	2,538	4,486	5,456	5,807	5,167	3,678	1,939	717	163	22
Percents	6.9	10.7	15.7	19.3	21.8	22.	3.6	100	.09	1.94	8.3	14.66	17.84	18.98	16.89	12.02	6.34	2.34	.53	.07

DISTRIBUTION OF PUPILS IN RESPECT BOTH

	CLASSES.		Under 5 years.	5 years.	6 years.	7 years.	8 years.	9 years.
Latin Schools.	All Classes	Boys	. .	. .	. .	. .	. .	. .
		Girls	. .	. .	. .	. .	. .	. .
	Totals		. .	. .	. .	. .	. .	. .
High Schools.	Advanced Class	Boys	. .	. .	. .	. .	. .	. .
		Girls	. .	. .	. .	. .	. .	. .
	Third-year Class	Boys	. .	. .	. .	. .	. .	. .
		Girls	. .	. .	. .	. .	. .	. .
	Second-year Class	Boys	. .	. .	. .	. .	. .	. .
		Girls	. .	. .	. .	. .	. .	. .
	First-year Class	Boys	. .	. .	. .	. .	. .	. .
		Girls	. .	. .	. .	. .	. .	. .
	Totals		. .	. .	. .	. .	. .	. .
Grammar Schools.	First Class	Boys	. .	. .	. .	. .	. .	. .
		Girls	. .	. .	. .	. .	. .	. .
	Second Class	Boys	. .	. .	. .	. .	. .	. .
		Girls	. .	. .	. .	. .	. .	. .
	Third Class	Boys	. .	. .	. .	. .	1	1
		Girls	. .	. .	. .	. .	. .	. .
	Fourth Class	Boys	. .	. .	. .	. .	2	31
		Girls	. .	. .	. .	. .	1	25
	Fifth Class	Boys	. .	. .	. .	2	21	268
		Girls	. .	. .	. .	. .	24	268
	Sixth Class	Boys	. .	. .	. .	12	275	958
		Girls	. .	. .	. .	9	223	840
	Ungraded Class	Boys	. .	. .	. .	2	32	92
		Girls	. .	. .	. .	2	13	55
	Totals		. .	. .	. .	27	592	2,538
Primary Schools.	First Class	Boys	. .	. .	6	286	1,017	1,115
		Girls	. .	. .	4	241	993	997
	Second Class	Boys	. .	8	449	1,396	1,421	670
		Girls	. .	8	430	1,232	1,135	555
	Third Class	Boys	25	1,468	2,269	1,311	540	133
		Girls	15	1,136	1,820	1,078	405	138
	Totals		40	2,620	4,978	5,544	5,511	3,608
Grand totals			40	2,620	4,978	5,571	6,103	6,146

TO AGE AND TO CLASSES, JANUARY, 1887.

10 years.	11 years.	12 years.	13 years.	14 years.	15 years.	16 years.	17 years.	18 years.	19 years and over.	Totals.
. .	7	34	63	88	94	69	40	30	20	445
. .	2	7	23	22	25	34	22	6	11	152
. .	9	41	86	110	119	103	62	36	31	597
. .	. .	. .	. .	. .	. .	. .	6	1	. .	7
. .	. .	. .	. .	. .	. .	2	17	49	52	120
. .	. .	. .	. .	. .	10	62	92	37	6	207
. .	. .	. .	. .	. .	4	37	97	85	43	266
. .	. .	. .	. .	19	84	104	75	18	2	302
. .	. .	. .	. .	12	55	128	102	37	14	348
. .	. .	. .	15	95	159	92	25	3	. .	389
. .	. .	. .	8	70	180	186	82	18	6	550
. .	. .	. .	23	196	492	611	496	248	123	2,189
. .	. .	18	159	341	324	152	30	‡3	. .	1,027
. .	. .	10	108	344	348	210	71	‡8	. .	1,099
2	31	231	486	493	288	103	22	‡2	. .	1,658
. .	16	161	444	497	353	117	19	‡4	. .	1,611
27	280	660	763	464	160	33	5	‡1	. .	2,395
21	204	600	738	555	220	51	9	‡1	. .	2,399
280	793	1,008	699	304	101	15	2	. .	. .	3,235
222	637	837	566	297	57	18	3	. .	. .	2,663
855	1,010	749	430	137	23	7	. .	. .	. .	3,502
805	918	617	400	115	27	4	. .	. .	. .	3,178
1,089	693	370	135	39	6	3	1	. .	. .	3,581
944	630	339	112	38	8	2	. .	. .	. .	3,145
143	154	126	78	37	13	2	. .	‡3	. .	682
98	90	81	49	17	11	. .	1	. .	. .	417
4,486	5,456	5,807	5,167	3,678	1,939	717	163	‡22	. .	30,592
633	231	61	†23	. .	. .	. .	. .	. .	. .	3,372
555	247	104	†19	. .	. .	. .	. .	. .	. .	3,120
251	68	24	†5	. .	. .	. .	. .	. .	. .	4,292
217	75	37	†7	. .	. .	. .	. .	. .	. .	3,696
43	7	6	†2	. .	. .	. .	. .	. .	. .	5,804
49	21	7	†3	. .	. .	. .	. .	. .	. .	4,672
1,748	609	239	†59	. .	. .	. .	. .	. .	. .	24,956
6,234	6,074	6,087	5,335	3,984	2,550	1,431	721	306	154	58,334

† Thirteen years and over. ‡ Eighteen years and over.

PRIMARY SCHOOLS.

Semi-Annual Returns, to January 31, 1887.

Districts.	Teachers.	Average whole Number.			Average Attendance.			Average Absence.	Per cent of Attendance.	Between 5 and 8 years.	Over 8 years.	Whole No. at date.
		Boys.	Girls.	Total.	Boys.	Girls.	Total.					
Adams	9	367	125	492	325	107	432	60	88.	269	231	500
Agassiz	3	101	66	167	89	53	142	25	85.	85	85	170
Allston	8	225	226	451	192	186	378	73	85.	280	171	451
Andrew	10	286	291	577	246	241	487	90	84.	282	278	560
Bennett	7	188	172	360	166	147	313	47	87.	192	187	379
Bigelow	13	368	282	650	333	250	583	67	89.	388	283	671
Bowdoin	8	185	168	353	163	140	303	50	86.	188	191	379
Brimmer	9	237	214	451	208	182	390	61	86.	274	205	479
Bunker Hill	12	352	273	625	317	241	558	67	89.	304	314	618
Chapman	6	189	145	334	166	122	288	46	86.	199	144	343
Charles Sumner	7	164	139	303	137	118	255	48	84.	175	135	310
Comins	8	230	221	451	211	192	403	48	90.	275	165	440
Dearborn	19	539	488	1,027	480	417	897	130	88.	484	563	1,047
Dillaway	7	202	184	386	176	160	336	50	87.	200	186	386
Dor.-Everett	11	300	272	572	254	221	475	97	83.	310	284	594
Dudley	12	310	329	639	275	284	559	80	87.	327	299	626
Dwight	10	245	285	530	212	240	452	78	85.	282	255	537
Eliot	10	388	130	518	337	107	444	74	86.	299	226	525
Emerson	10	321	195	516	289	170	459	57	89.	237	291	528
Everett	10	268	272	540	235	225	460	80	86.	272	282	554
Franklin	12	321	335	656	280	289	569	87	87.	314	351	665
Frothingham	9	233	243	476	205	207	412	64	87.	210	276	486
Gaston	16	455	375	830	395	319	714	116	86.	468	397	865
George Putnam	4	95	106	201	83	89	172	29	86.	121	82	203
Gibson	6	168	155	323	140	117	257	66	81.	192	137	329
Hancock	15	468	370	838	411	316	727	111	87.	518	333	851
Harris	5	122	153	275	104	123	227	48	83.	130	147	277
Harvard	12	336	312	648	296	262	558	90	86.	317	327	644

PRIMARY SCHOOLS. — *Concluded.*

Districts.	Teachers.	Average whole Number.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Between 5 and 8 years.	Over 8 years.	Whole No. at date.
		Boys.	Girls.	Total.	Boys.	Girls.	Total.					
Hillside . . .	5	130	102	232	104	76	180	52	77.	141	108	249
Hyde	8	227	198	425	204	169	373	52	88.	220	212	432
Lawrence . .	20	752	239	991	681	208	889	102	90.	515	475	990
Lewis	12	347	326	673	306	282	588	85	87.	353	301	654
Lincoln . . .	6	217	108	325	196	92	288	37	89.	151	170	321
Lowell	12	310	344	654	265	287	552	102	85.	390	269	659
Lyman	11	389	172	561	345	145	490	71	84.	276	301	577
Martin	6	123	135	258	108	116	224	34	84.	172	152	324
Mather	8	186	201	387	150	163	313	74	81.	209	177	386
Minot	5	102	116	218	85	96	181	37	83.	143	79	222
Mount Vernon	2	53	70	123	41	56	97	26	79.	69	53	122
Norcross . . .	13	238	473	711	214	427	641	70	90.	345	370	715
Phillips . . .	6	166	147	313	147	121	268	45	86.	134	189	323
Prescott . . .	9	255	236	491	233	208	441	50	90.	251	246	497
Prince	3	89	85	174	72	61	133	41	76.	89	93	182
Quincy	14	423	288	711	373	244	617	94	87.	363	372	735
Rice	8	205	187	392	166	148	314	78	80.	221	198	414
Sherwin . . .	9	226	242	468	208	218	426	42	91.	251	231	482
Shurtleff . . .	7	175	224	399	154	183	337	62	87.	221	183	404
Stoughton . .	4	83	121	204	71	98	169	35	83.	134	72	206
Tileston . . .	2	39	36	75	33	30	63	12	84.	57	20	77
Warren . . .	7	188	197	385	172	173	345	40	90.	219	167	386
Wells	16	442	403	845	386	336	722	123	86.	485	374	859
Winthrop . .	6	165	171	336	145	143	288	48	86.	181	142	323
Totals . . .	467	13,193	11,347	24,540	11,584	9,615	21,189	3,351	89.6	13,182	11,774	24,956

PRIMARY SCHOOLS.

Number of Pupils in each Class, Whole Number, and Ages, Jan 31, 1887.

Districts.	First Class.	Second Class.	Third Class.	Whole Number.	Five years and under.	Six years.	Seven years.	Eight years.	Nine years.	Ten years.	Eleven years.	Twelve years.	Thirteen years and over.
Adams	112	207	181	500	53	103	113	115	61	26	16	8	5
Agassiz . . .	51	55	64	170	12	33	40	46	23	12	2	1	1
Allston	124	142	185	451	53	107	120	86	47	26	7	3	2
Andrew . . .	162	227	171	560	55	113	114	120	84	41	20	11	2
Bennett . . .	71	131	177	379	48	65	79	94	50	25	14	3	1
Bigelow . . .	216	223	232	671	75	145	168	136	87	38	16	5	1
Bowdoin . . .	92	145	142	379	53	61	74	86	65	32	7	1	. .
Brimmer . . .	87	176	216	479	43	107	124	114	60	23	7	. .	1
Bunker Hill .	175	221	222	618	45	126	133	154	95	46	12	6	1
Chapman . .	92	110	141	343	37	63	99	83	46	10	4	1	. .
Chas. Sumner	84	113	113	310	38	62	75	72	42	16	4	1	. .
Comins . . .	98	157	185	440	51	112	112	80	40	26	12	7	. .
Dearborn . .	274	349	424	1,047	117	164	203	251	178	83	33	15	3
Dillaway . . .	127	115	144	386	33	76	91	91	66	25	3	1	. .
Dor.-Everett .	153	181	260	594	58	121	131	149	85	35	9	5	1
Dudley	158	172	296	626	63	130	134	130	103	46	18	2	. .
Dwight . . .	160	136	241	537	63	113	106	121	68	49	11	3	3
Eliot	95	202	228	525	74	111	114	115	54	47	9	. .	1
Emerson . . .	126	174	228	528	58	89	90	126	89	42	22	7	5
Everett . . .	172	106	276	554	39	119	114	112	79	50	26	10	5
Franklin . . .	168	207	290	665	53	116	145	134	116	66	19	14	2
Frothingham .	115	204	167	486	. . .	92	118	129	87	47	10	3	. .
Gaston	254	282	329	865	113	151	204	165	137	61	23	10	1
Geo. Putnam .	48	47	108	203	27	56	38	47	23	8	3	1	. .
Gibson	91	103	135	329	41	67	84	72	44	15	5	. .	1
Hancock . . .	167	200	484	851	105	214	199	154	99	62	16	. .	2
Harris	91	69	117	277	31	45	54	64	44	18	13	6	2
Harvard . . .	108	205	331	644	85	104	128	149	114	44	18	2	. .
Hillside . . .	64	83	102	249	28	60	53	46	41	11	6	4	. .

PRIMARY SCHOOLS. — *Concluded.*

Districts.	First Class.	Second Class.	Third Class.	Whole Number.	Five years and under.	Six years.	Seven years.	Eight years.	Nine years.	Ten years.	Eleven years.	Twelve years.	Thirteen years and over.
Hyde	113	114	205	432	36	92	92	100	66	25	14	7	. .
Lawrence . .	301	278	411	990	96	197	222	225	135	76	24	12	3
Lewis	144	215	295	654	48	140	165	148	93	45	12	3	. .
Lincoln . . .	97	110	114	321	34	55	62	92	49	20	5	2	2
Lowell . . .	160	159	340	659	90	131	169	139	78	33	11	6	2
Lyman . . .	154	158	265	577	53	121	102	102	104	67	19	9	. .
Martin . . .	109	100	115	324	50	58	64	85	45	12	8	2	. .
Mather . . .	116	119	151	386	38	65	106	91	50	22	8	2	4
Minot	63	57	102	222	36	52	55	49	20	6	1	3	. .
Mt. Vernon .	30	31	61	122	13	30	26	30	16	5	1	1	. .
Norcross . .	204	261	250	715	91	119	135	137	133	66	15	16	3
Phillips . . .	96	103	124	323	25	61	48	60	61	37	22	7	2
Prescott . . .	113	163	221	497	54	97	100	111	78	46	10	1	. .
Prince . . .	60	59	63	182	21	23	45	50	27	11	4	1	. .
Quincy . . .	204	275	256	735	62	145	156	161	99	74	29	9	. .
Rice	98	166	150	414	33	86	102	101	66	15	10	1	. .
Sherwin . .	112	104	266	482	48	98	105	109	77	28	8	8	1
Shurtleff . .	113	114	177	404	48	85	88	95	55	22	8	2	1
Stoughton . .	57	71	78	206	33	52	49	38	24	6	4	. .	. .
Tileston . . .	20	17	40	77	12	19	26	13	4	2	1	. .	. .
Warren . . .	107	168	111	386	38	78	103	92	48	18	9	. .	. .
Wells	213	265	381	859	103	188	194	183	110	67	9	5	. .
Winthrop . .	73	139	111	323	47	61	73	59	43	15	12	12	1
Totals . .	6,492	7,988	10,476	24,956	2,660	4,978	5,544	5,511	3,608	1,748	609	239	59
Percentages	26.	32.	42.	100	10.7	19.9	22.2	22.1	14.5	7.	2.4	1.	.2

GRAMMAR SCHOOLS.

Number of Pupils to a Teacher, excluding Principals, January 31, 1887.

Schools.	No. of Teachers.	Average No. of Pupils.	No. of Pupils to a Teacher.	Schools.	No. of Teachers.	Average No. of Pupils.	No. of Pupils to a Teacher.
Adams.....	10	517	51.7	Harvard ...	12	629	52.4
Agassiz.....	6	347	57.8	Hillside	7	373	53.1
Allston	11	530	48.2	Hyde	12	604	50.3
Andrew.....	14	743	53.1	Lawrence ..	18	935	51.9
Bennett	9	498	54.2	Lewis.....	13	708	54.5
Bigelow	15	842	56.1	Lincoln	16	851	53.2
Bowdoin....	9	361	40.1	Lowell.....	13	704	54.1
Brimmer....	14	660	47.1	Lyman	12	572	47.7
Bunker Hill.	13	674	51.8	Martin	12	603	50.2
Chapman ...	12	603	50.2	Mather	9	469	52.1
Chas.Sumner	9	409	45.4	Minot	7	301	43.
Comins.....	11	629	57.2	Mt.Vernon.	5	195	39.
Dearborn ...	19	1,029	54.1	Norcross ...	14	663	47.7
Dillaway ...	12	695	57.9	Phillips	14	751	53.6
Dor.-Everett	13	684	52.3	Prescott....	9	485	53.9
Dudley.....	14	726	51.9	Prince	9	505	56.1
Dwight.....	13	698	53.7	Quincy.....	12	541	45.1
Eliot	20	979	48.8	Rice	11	582	52.9
Emerson....	13	663	51.	Sherwin....	11	569	51.7
Everett.....	14	720	50.5	Shurtleff....	13	702	54.
Franklin....	14	691	49.4	Stoughton..	6	319	53.2
Frothingham	12	619	51.6	Tileston....	2	78	39.
Gaston	10	551	55.1	Warren	13	683	52.5
Geo. Putnam	5	297	59.4	Wells.....	9	474	52.7
Gibson	10	452	45.2	Winthrop ..	18	947	52.6
Hancock ...	11	548	49.8				
Harris	5	281	56.2	Totals ...	595	30,689	51.6

PRIMARY SCHOOLS.

Number of Pupils to a Teacher, January 31, 1887.

Districts.	No. of Teachers.	Av. whole No. of Pupils.	No. of Pupils to a Teacher.	Districts.	No. of Teachers.	Av. whole No. of Pupils.	No. of Pupils to a Teacher.
Adams	9	492	54.7	Harvard ...	12	648	54.0
Agassiz.....	3	167	55.7	Hillside	5	232	46.5
Allston	8	451	56.4	Hyde	8	425	53.1
Andrew.....	10	577	57.7	Lawrence ..	20	991	49.6
Bennett	7	360	51.4	Lewis.....	12	673	56.1
Bigelow	13	650	50.0	Lincoln	6	325	54.2
Bowdoin ...	8	353	44.1	Lowell.....	12	654	54.5
Brimmer ...	9	451	50.1	Lyman.....	11	561	51.0
Bunker Hill.	12	625	52.1	Martin.....	6	258	43.0
Chapman ...	6	334	55.7	Mather	8	387	48.4
Ch's Sumner	7	303	43.3	Minot.....	5	218	43.6
Comins.....	8	451	56.4	Mt. Vernon	2	123	61.5
Dearborn ..	19	1,027	54.1	Norcross...	13	711	54.7
Dillaway ...	7	386	55.1	Phillips	6	313	52.2
Dor.-Everett	11	572	52.0	Prescott ...	9	491	54.6
Dudley.....	12	639	53.2	Prince	3	174	58.0
Dwight.....	10	530	53.0	Quincy	14	711	50.8
Eliot.....	10	518	51.8	Rice.....	8	392	49.0
Emerson ...	10	516	51.6	Sherwin ...	9	468	52.0
Everett.....	10	540	54.0	Shurtleff...	7	399	57.0
Franklin ...	12	656	54.7	Stoughton..	4	204	51.0
Frothingham	9	476	52.9	Tileston....	2	75	37.5
Gaston	16	830	51.9	Warren	7	385	55 0
Geo. Putnam	4	201	50.2	Wells.....	16	845	52.8
Gibson	6	323	37.2	Winthrop ..	6	336	56.0
Hancock....	15	838	55.9	Totals	467	24,540	52.5
Harris	5	275	55.0				

PRIMARY SCHOOLS.

Number of Pupils promoted to Grammar Schools for the five months ending January 31, 1887.

Districts.	Boys.	Girls.	Total.	Districts.	Boys.	Girls.	Total.
Adams	56	31	87	Harvard	48	40	88
Agassiz	29	27	56	Hillside	38	26	64
Allston	60	50	110	Hyde	24	15	39
Andrew	69	78	147	Lawrence	113	25	138
Bennett	32	31	63	Lewis	68	76	144
Bigelow	115	87	202	Lincoln	39	11	50
Bowdoin	35	45	80	Lowell	80	77	157
Brimmer	41	49	90	Lyman	72	24	96
Bunker Hill	60	77	137	Martin	19	24	43
Chapman	50	46	96	Mather	55	55	110
Charles Sumner	49	51	100	Minot	27	21	48
Comins	35	24	59	Mt. Vernon	17	23	40
Dearborn	116	109	225	Norcross	23	65	88
Dillaway	51	42	93	Phillips	56	42	98
Dor.-Everett	76	81	157	Prescott	47	40	87
Dudley	75	78	153	Prince	33	20	53
Dwight	43	59	102	Quincy	65	45	110
Eliot	57	21	78	Rice	55	48	103
Emerson	54	48	102	Sherwin	39	29	68
Everett	75	78	153	Shurtleff	12	..	12
Franklin	40	40	80	Stoughton	27	11	38
Frothingham	61	51	112	Tileston	4	15	19
Gaston	90	85	175	Warren	42	40	82
George Putnam	28	23	51	Wells	77	78	155
Gibson	31	32	63	Winthrop	6	25	31
Hancock	74	68	142	Totals	2,608	2,312	4,920
Harris	20	26	46				

GRAMMAR SCHOOLS.

Number of diploma-scholars, June 1886. Number of these admitted to High and Latin Schools, September, 1886.

Schools.	Diplomas.			Admitted to High and Latin Schools.	Schools.	Diplomas.			Admitted to High and Latin Schools.
	Boys.	Girls.	Total.			Boys.	Girls.	Total.	
Adams	19	15	34	20	Harris	9	14	23	15
Agassiz	29	..	29	21	Harvard ...	19	25	44	25
Allston	18	15	33	21	Hillside....	..	26	26	17
Andrew.....	17	18	35	9	Hyde.....	..	27	27	12
Bennett	18	15	33	19	Lawrence .	44	..	44	21
Bigelow	51	..	51	15	Lewis	17	27	44	33
Bowdoin.....	..	27	27	13	Lincoln ...	44	..	44	17
Brimmer.....	29	..	29	13	Lowell	19	18	37	15
Bunker Hill...	23	26	49	33	Lyman	17	6	23	9
Chapman	19	26	45	27	Mather	17	16	33	24
Chas. Sumner.	9	11	20	6	Minot	6	14	20	15
Comins	22	28	50	26	Mt. Vernon.	6	9	15	7
Dearborn	15	23	38	13	Norcross...	..	32	32	14
Dillaway	..	30	30	16	Phillips ...	36	..	36	20
Dor.-Everett ..	18	23	41	23	Prescott ...	20	18	38	18
Dudley	44	..	44	20	Prince... .	23	27	50	23
Dwight	36	..	36	21	Quincy	35	..	35	20
Eliot	36	..	36	12	Rice	25	..	25	15
Emerson.....	21	17	38	23	Sherwin ...	26	..	26	12
Everett.....	..	70	70	45	Shurtleff ..	..	44	44	25
Franklin.	..	53	53	34	Stoughton .	9	12	21	14
Frothingham ..	15	24	39	17	Tileston ...	5	3	8	5
Gaston	..	28	28	13	Warren....	14	30	44	38
George Putnam	10	20	30	16	Wells	..	32	32	10
Gibson	13	18	31	16	Winthrop ..	..	53	53	31
Hancock	..	27	27	10	Totals ...	853	947	1,800	957

TABLE SHOWING THE NUMBER OF CHILDREN IN PUBLIC SCHOOLS, IN PRIVATE SCHOOLS, AND NOT IN SCHOOL, FOR EACH WARD OF THE CITY OF BOSTON, MAY, 1886:—

Ward.	In Public Schools.	In Private Schools.	Not in School.	Total.
1	2,390	455	437	3,282
2	1,925	710	469	3,104
3	2,091	14	223	2,328
4	1,940	4	252	2,196
5	1,610	35	241	1,886
6	2,101	976	271	3,348
7	1,090	953	306	2,248
8	1,837	11	289	2,137
9	1,312	135	134	1,581
10	481	68	97	646
11	1,321	434	171	1,926
12	1,415	207	244	1,866
13	3,365	948	631	4,944
14	3,494	482	657	4,633
15	2,985	100	368	3,453
16	1,919	228	278	2,425
17	1,725	48	331	2,104
18	1,263	358	202	1,823
19	3,487	462	431	4,380
20	3,312	118	391	3,821
21	1,982	622	389	2,993
22	2,835	135	509	3,479
23	3,289	211	82	3,582
24	3,536	184	329	4,049
25	1,721	14	121	1,856
Total	54,426	7,912	7,752	70,090

TABLE SHOWING THE NUMBER OF CHILDREN FROM FIVE TO FIFTEEN YEARS OF AGE IN EACH WARD OF THE CITY, WITH THE GAIN OR LOSS BETWEEN MAY, 1885, AND MAY, 1886: —

Ward.	1885.	1886.	Gain.	Loss.
1	3,159	3,282	123	.....
2	2,944	3,104	160	.....
3	2,156	2,328	172	.....
4	2,219	2,196	.....	23
5	1,783	1,886	103	.....
6	3,385	3,348	.....	37
7	2,290	2,248	.....	42
8	2,100	2,137	37	.....
9	1,537	1,581	44	.....
10	954	646	.....	308
11	1,938	1,926	.....	12
12	2,230	1,866	.....	364
13	4,671	4,944	273	.....
14	4,308	4,633	325	.....
15	3,285	3,453	168	.....
16	2,516	2,425	.....	91
17	2,015	2,104	89	.....
18	1,677	1,823	146	.....
19	4,642	4,380	.....	262
20	3,859	3,821	.....	38
21	2,936	2,993	57	.....
22	3,169	3,479	310	.....
23	3,386	3,582	196	.....
24	3,839	4,049	210	.....
25	1,704	1,856	152	.....
Total	68,702	70,090	2,565	1,177

Net gain, 1,388.

SCHOOL DOCUMENT NO. 4—1887.

REPORT

OF THE

COMMITTEE ON EXAMINATIONS

ON THE

REDUCTION AND SIMPLIFICATION OF THE STUDY OF ARITHMETIC.

APRIL, 1887.

BOSTON:
ROCKWELL AND CHURCHILL, CITY PRINTERS,
No. 39 ARCH STREET.
1887.

In School Committee, Boston, April 26, 1887.

Ordered, That five hundred additional copies of School Document No. 4, 1887, be printed.

Attest:

PHINEAS BATES,
Secretary.

REPORT.

Whereas, The study of so-called Arithmetic in the Grammar Schools of this city covers much ground which does not come within the proper scope of arithmetic, which is the art of numbers, no small part of the time and strength of the pupils being given to merely technical applications of arithmetical rules; and

Whereas, The exercises prescribed are often difficult beyond the best conditions of mental discipline, the problems set for the pupils being really exercises, not in arithmetic, but in logic, such as pertain to a period of life several years later:

Resolved, That the Committee on Examinations are requested to inquire and report whether it is not practicable to reduce and simplify the studies and exercises now prescribed under the head of Arithmetic.

The School Board, April 27, 1886, referred to your Committee on Examinations the foregoing preambles and resolve, and promptly thereafter your committee, with the mover, held a conference with the fifty-two principals of our Grammar-school districts, and listened to the free expressions and views of such as could be heard during a single session. It was evident that the *viva-voce* method was not adapted to obtain exact information and the deliberate and responsible opinions of all the principals.

Your committee, upon the basis of propositions furnished at their request by General Walker, framed eleven interrogatories to all those principals, which sought to bring out the special knowledge of each of them as to the true condition of the important study of Arithmetic as practised in each stage of the course, and in each grade of their schools; as to the gravamen of each of the preambles; and as to the interrelations of the course of study, the examinations, and

exercises framed in the schools; in what particular there might be defects; — and we invited the opinions and recommendations of the masters severally as to the best practicable way of reducing and simplifying the study and exercises now prescribed under the head of Arithmetic, and at the same time secure the best results in accuracy and facility in computations, and usefulness in the application of them.

These interrogatories, in a printed circular, were addressed to each of the masters, June 2, 1886; but, as the duties of the closing weeks of the term then demanded their attention, their answers were not all in until late in the autumn.

The duty of reading those voluminous responses devolved upon a minority of your committee during the necessary absence of the others; and, with all the attention they could give, and the valuable aid of the Superintendent in preparing for their use a summary of the masters' communications in connection with each of the interrogatories, which was completed December 13, 1886, the business was unfinished at the expiration of the year, and had to be transmitted to the Board of 1887, and taken up by the same committee, of which General Walker, the mover, had been made a member in place of a member who had retired from the Board.

It is very much desired that every member of the Board will attentively read and weigh the statements and recommendations of the masters, if not in their original communications on the Secretary's files, at least in the summary accompanying this report.

Inasmuch as the proportion of time given to the study is a chief subject of investigation, it seems proper that the signification of time allotments, the nature of the course of study, and the examinations, as referred to, should be brought before our minds.

Previous to 1878 there was in the course of study no specification in detail for the guidance of the instructors as to the various items or topics involved in the science or study

of arithmetic, or of any other such distinct subject, nor was the amount of time to be given to any subject prescribed.

It belonged to the principal of a district to direct whether any or what systematic distribution of the school time should be made, and how much should be given to any particular branch.

Perhaps there was a want of uniformity in the systems, standards, and results in different schools. Some branches were pursued very much, and others not so much as they ought to have been; the views of the masters differed from those of one another somewhat as their views in the summary will be found to differ; and the modern School Board of 1878, for the first time set down in the course of study the proportion of time to be given to each branch or study. Thereby a uniform and due attention was intended to be secured to every study rather than an excess should be permitted to one or more at the expense of the rest.

Again, in 1883, the Committee on Examinations were instructed "to take into serious consideration, and report accordingly, on the advisability of simplifying the course of study," with special reference to the essential and practically useful studies, and also to the supposition which, to some extent prevailed, that "the time of our public school pupils was devoted to minor, and, to many of them, unnecessary branches of education, and the time ought in part, or wholly, be assigned to cardinal and useful studies with much greater advantage to the children."

Then, as now, questions to all the masters and their valuable answers and opinions (see Doc. 6, 1883) were availed of, showing what studies were considered "essential and practically useful," and what changes in the course of study they believed to be desirable.

Two things were called for, — simplification of examinations in arithmetic, and a specification of topics more in detail for the instructors.

The revised course of study of 1883 was the fruit of that movement, leaving still to the judgment of each principal the manner of instructing and the obtaining of results.

The necessity for printing a new supply of the Course of Study in 1886 was deemed a suitable occasion for printing the new edition in pamphlet form, and attempting amendments and supposed simplifications in the guide to teachers, and half an hour increase of time allotted to arithmetic in the third and fourth grammar classes was made in deference to the advice of the masters.

The time per week assigned to the essential and useful study of arithmetic under the several courses of study authorized in 1878, 1883, and 1886, is shown by the following table, the increase having been made as the direct consequence of consultation with the masters and Supervisors, and in accordance with their judgment that time had better be taken from minor branches and given to this useful study, with greater advantage to the pupils : —

	1878. [Doc. 17.]	1883. [Doc. 21.]	1886.
Grammar Schools.	Hours.	Hours.	Hours.
Class 1	$3\frac{3}{4}$	$4\frac{1}{4}$	4
2	4	$4\frac{1}{2}$	$4\frac{1}{2}$
3	4	$4\frac{1}{2}$	5
4	4	$4\frac{1}{2}$	5
5	4	$4\frac{1}{2}$	$4\frac{1}{2}$
6	4	$4\frac{1}{2}$	$4\frac{1}{2}$
Primary Schools.			
Class 1	$3\frac{1}{2}$	$4\frac{1}{2}$	$4\frac{1}{2}$
2	$2\frac{1}{2}$	4	4
3	2	$3\frac{1}{2}$	$3\frac{1}{2}$

Now what has been the result of prescribed courses of study intended for the minds of the teachers, with their specifications of topics and allotments of time?

Rightly interpreted, they have been an aid; otherwise, they seem to have been a stumbling-block, judging from the experience and remarks of the masters set forth in the annexed summary.

In nineteen of the Primary Schools there has been no time given to arithmetic beyond the time prescribed. In many of the remaining districts the excess is not great. The extreme cases of excess are in six districts, the highest of which is twelve hours per week excess in the Primary grades.

The different interpretations, different methods, and perhaps persistent adherence to the independent methods previous to 1878, or the different ability of the teachers, may account for such excesses. At all events, for the sake of the infant minds and bodies of the pupils a correction is summarily demanded in the Primary grade.

In one-half (26) of the Grammar Schools there is no excess of time given to arithmetic.

As to the 26 in which there is excess, the reasons seem to be those intimated as causes of the extreme excess in some Primary districts; but the evidence of mistaken judgment as to what is required of the teachers and pupils is quite remarkable.

It should have been understood that the mention of topics comprehended in arithmetic was not intended to make the study of every such topic or item as mandatory.

The selection of too difficult problems is not anywhere authorized.

The study of arithmetic during the six years of the Grammar School is solely in the charge of the principals; all the exercises given to the pupils are framed by the masters without examination or supervision by their official superiors.

At the end of six years of such exclusive charge and teaching, when the diploma examination is held, questions framed by the supervisors are met with for the first time.

Some masters testify that these diploma examinations, for which six years of preparation are afforded, are regarded by them as a standard which have made the study more severe, require even more time than now assigned, and do not allow time for practice in computation, thereby purporting to admit that there is less accuracy and facility than formerly.

But the specimens of over-difficult questions for the diploma examinations cited by them are from the periods anterior to 1883; all therefore seem to agree that the questions for diploma examinations since 1883 have been substantially unobjectionable, and, as one result of the present deliberation, it may be believed that, under the direction of the Committee on Examinations, there will hereafter be no excuse for too high standards to fret or overwork the pupils during the six years of their approach to the graduation test.

Right proportioning of time, right understanding of the printed course of study, and judicious examination questions, with frequent or weekly drills in computation, with the due *attention* on the part of the pupils, and moderate rapidity, should enable them to secure thoroughness, accuracy, and facility, as well in computation as in problems not puzzling but useful to the pupils for their avocations in life. Instead of striking out useful problems we would have them limited to those of utility, to be mastered, — at the same time cultivating the reasoning powers and affording an unerring basis of sound logic.

What is the chief recommendation of the principals?

The item which the largest number (16) of them unite in advising us to omit concerns the difficult applications of principles.

We earnestly advise the same and trust to every one of

them carrying the reform into practice as it is fully in their power to do, and the Supervisors, under the direction of the Committee on Examinations, will be held to coöperate in their questions for the examination for promotion to the Grammar Schools, and for the diploma examinations.

The advice of the Superintendent, as given in his Annual Report for 1886 (Doc. 3, pages 34 and 35) is well timed: —

> To any teachers who may have read thus far I desire to say respectfully that you have no valid excuse for overworking your pupils, or for violating the home-study rules. It will not do to say that the course of study or the supervisors require it. The supervisors do nothing of the sort. The course of study lays down for you *lines* of work, not *amounts* of it. You are to take such pupils as are given you, and do the best you can with them, in the time allowed, and on the lines of work laid down. You are not to overwork them, or worry them, or try to make a show with them; but you are to work with them steadily, reasonably, and for their benefit exclusively. Your work will be judged with a due regard to all the circumstances; the condition of your class will be regarded quite as much as its apparent degree of advancement; the quality of your work, and the spirit in which it is done, will be regarded before the mere quantity of it. Do not set up unreasonable standards of your own, and then distress yourselves and goad your defenceless pupils with the notion that some outside authority — the supervisors — expects so much of you. There is really no excuse for it; nor for the errors such mistaken notions may lead you to commit.

As to the removal of certain topics wholly from the course, it should be remarked that some of those most objected to are optional, and are limited to the first grammar class, and questions for examination in those studies consequently have been also optional. Our recommendations as to the other objectionable topics are given in our conclusions.

After an extended investigation of the whole subject, and duly weighing the expert testimony of the practical men intrusted with the instruction, notwithstanding that several masters ask for more rather than less time for study and

practice in arithmetic, we think that, with the reduction of required studies, the simplification of the exercises framed by the principals, and of the examination questions by the Supervisors, of which this committee has the charge, and the discountenancing and virtual prohibition of home lessons in arithmetic, a substantial return to the time allotment for this study adopted in 1878 is practicable and advisable.

CONCLUSIONS AND RECOMMENDATIONS.

1. Home lessons in arithmetic should be given out only in exceptional cases.

2. The mensuration of the trapezoid and of the trapezium, of the prism, pyramid, cone, and sphere; compound interest, cube root and its applications; equation of payments, exchange, similar surfaces, metric system, compound proportion, and compound partnership, — should not be included in the required course.

3. All exercises in fractions, commission, discount, and proportion should be confined to small numbers, and to simple subjects and processes, the main purpose throughout being to secure thoroughness, accuracy, and a reasonable degree of facility in plain, ordinary ciphering.

4. In "practical problems," and in examples illustrative of arithmetical principles, all exercises are to be avoided in which a fairly intelligent and attentive child of the age concerned would find any considerable difficulty in making the statement which is preliminary to the performance of the properly arithmetical operations.

When arithmetical work is put into the form of practical or illustrative problems, it must be for the purpose of interesting and aiding the child in the performance of the arithmetical operations, and with a view to their common utility.

5. In oral arithmetic no racing should be permitted; but the dictation should be of moderate rapidity.

6. The average time devoted to arithmetic throughout the Primary and Grammar School course should be three and a half hours a week; and in the third Primary grade not more than two hours, and in the first and second Primary grades not more than three and a half hours each per week.

And also all examinations for promotion from Primary to Grammar Schools should be as simple as possible, and strictly confined within the limit of an hour in each subject.

For the Committee on Examinations,

J. C. CROWLEY,
Chairman.

Ordered, That the Committee on Examinations be authorized and empowered to revise and alter the Course of Study so as to include and conform to the foregoing recommendations.

APPENDIX.

SUMMARY OF REPLIES OF PRINCIPALS OF GRAMMAR SCHOOLS TO SPECIAL CIRCULAR OF COMMITTEE ON EXAMINATIONS, RELATIVE TO THE STUDY OF ARITHMETIC.

FIRST QUESTION.

What proportion of the total time in school, devoted to study and recitation by the pupils of the schools under your charge, is actually used beyond the time required by the Course of Study in studies and exercises prescribed under the head of Arithmetic ?

[*Note. Please give a separate answer for each year of the Primary and of the Grammar schools.*]

The answers to the first question show that in twenty-six Grammar schools no time beyond that required by the Course of Study is used for Arithmetic. These are the Adams, Allston, Bennett, Bigelow, Chapman, Comins, Dudley, Dwight, Franklin, Frothingham, Gaston, Geo. Putnam, Gibson, Hancock, Harvard, Hillside, Lawrence, Lincoln, Lowell, Lyman, Mt. Vernon, Prescott, Shurtleff, Tileston, Warren, Winthrop, — 26.

There are nineteen districts in which no excess of time is used in the Primary schools. They are mostly the same as those just named. In many of the remaining districts the excess is not great. The extreme cases are the Chapman, with an aggregate excess of seven hours a week in the three primary grades ; the Lewis, with an aggregate excess of over eight hours, four being in the primary ; the Wells, with an aggregate excess of nine and two-thirds hours, six and two-thirds being in the primary ; the Bowdoin, with an aggregate excess of ten and one-half hours, four being in the primary ; the Prince, with an excess of twelve hours, seven and one-half being in the primary ; and the Hyde, with an excess of

sixteen hours, twelve being in the primary. There is also a considerable excess, amounting in the aggregate to about four hours a week, for the three primary grades of the Comins, Eliot, Emerson, and Harvard districts.

SECOND QUESTION.

In the three upper grades are home lessons given in arithmetic? How many a week?

No "home lessons" in arithmetic are given in the Adams, Dearborn, Franklin, Gaston, Gibson, Hancock (except occasionally in first class), Harvard, Lawrence, Lowell, Mather, Minot, Prescott, Stoughton, and Tileston, and only occasionally in the Everett and Warren, — 16.

Home lessons in arithmetic are not given in any class below the first in the Allston, Chapman, Comins, Dillaway, Dorchester-Everett, Emerson, Harris, Hyde, Norcross, and Winthrop, — 10.

Home lessons are regularly given to the first, second and third classes grammar in the Bennett, Bigelow, Bowdoin, Dudley, Geo. Putnam, Lincoln, Lyman, Mt. Vernon, Prince, and Quincy, — 10.

Home lessons are given in the second class, or in the third, or in both, in the Agassiz, Andrew, Brimmer, Bunker Hill, Chas. Sumner, Dwight, Eliot, Frothingham, Hillside, Lewis, Phillips, Sherwin, Shurtleff, Wells, — 14.

THIRD QUESTION.

What, in fact, determines the amount and kind of work done under this head? Is it your own judgment as to the needs of the pupils, or is it the standard set by the supervisors' examinations for promotion from the primary to the grammar classes, and for graduation from the grammar schools?

"It is my judgment alone," or "my judgment guided by the Course of Study," not the standard set by the supervisors, say, in substance, the masters of the Dwight, Eliot, Everett, Gibson, Hancock, Lincoln, Lowell, Lyman, Norcross, Phillips, Warren, Winthrop, — 12.

"It is the Course of Study": Brimmer, Dillaway, Lawrence, — 3.

"In the graduating classes and in the primary schools it is the supervisors' standard, in the other classes it is my judgment": Allston, Bigelow, Comins, Dearborn, Dor.-Everett, Emerson, Gaston (also the text-book), Shurtleff, and Wells, — 9.

"It is both my judgment and the supervisors' standard under the Course of Study": Adams, Agassiz, Bowdoin, Chas. Sumner, Dudley, Frothingham, Geo. Putnam, Harvard, Hillside, Lewis, Mather, Mt. Vernon, — 12.

"It is the Course of Study and the supervisors' standards": Andrew, Bunker Hill, Chapman, Franklin, Harris, Hyde, Minot, Prescott, Prince, Quincy, Sherwin, Stoughton, Tileston, — 13.

FOURTH QUESTION.

If you say that it is the supervisors' standard for examinations which determines the amount and kind of work, please produce from such standards specimens of examination questions which, in your judgment, make the study unnecessarily laborious and difficult for each grade of schools.

No objections made to the supervisors' questions or no answer to this question considered necessary by the masters of the Adams, Bennett, Brimmer, Dillaway, Dwight, Everett, Geo. Putnam, Gibson, Hancock, Lawrence, Lincoln, Norcross, Phillips, Quincy, Tileston, Warren, — 16.

The questions for the last few years have been free from objection, say the masters of the Chas. Sumner, Dudley, Franklin, Frothingham, Bunker Hill, Harris, Hillside, Prince, Stoughton, Bowdoin, Emerson, Mt. Vernon, and Lyman (except in primary), — 13.

Supervisors' examination questions are produced by the masters of fourteen schools, namely, the Agassiz, Allston, Andrew, Bowdoin, Comins, Dearborn, Dor.-Everett, Eliot, Gaston, Hyde, Minot, Prescott, Wells, Winthrop, — 14.

All supervisors' questions complained of by the masters of the Chapman, Harvard, and Lewis, while this general complaint is limited to the Primary schools by the masters of the Lowell, Lyman, Mather, Sherwin, Shurtleff, Wells, Bigelow, Andrew, Hyde.

The last paper set in the Grammar schools — June, 1886 — is declared too easy by the masters of the Dor.-Everett, Franklin, and Gaston.

As to the particular questions produced, it is to be noted that the greater part of those for the Grammar schools are from the papers set in 1877, 1878, 1879, and 1880. The questions produced from the primary examination papers are more numerous than those from the grammar papers, and are taken almost as frequently from recent as from older papers. There are no primary papers dating further back than 1882.

FIFTH QUESTION.

Throughout your schools is not the study of arithmetic, practically, solely in your charge, and are not the exercises which shall qualify the pupils for the supervisors' examinations framed and directed by you, and if so, are these questions, prepared or authorized by you, submitted to the supervisors for approbation ?

Twenty-five masters answered affirmatively that the study of arithmetic throughout their schools is, practically, solely in their charge, and that the exercises which shall qualify the pupils for the supervisors' examinations are framed and directed by them. They are the masters of the Adams, Allston, Bigelow, Brimmer, Chas. Sumner, Dudley, Dwight, Emerson, Everett, Frothingham, Geo. Putnam, Gibson, Hancock, Harris, Lawrence, Lewis, Lincoln, Lowell, Lyman, Mt. Vernon, Norcross, Phillips, Prescott, Quincy, Warren, — 25.

Qualified affirmative answers are given by nine : Comins, Dillaway, Dorchester-Everett, Eliot, Hillside, Mather, Prince, Shurtleff, and Wells, — 9.

Eleven masters answered in the negative. They are the masters of the Agassiz, Andrew, Bowdoin, Bunker Hill, Franklin, Gaston, Harvard, Minot, Sherwin, Stoughton, Tileston, — 11.

The masters of the Chapman and Winthrop answer the first part in the negative and the second part in the affirmative ; and of the Dearborn in the same way, with a qualification. The masters of the Bennett and Hyde do not answer this question.

The third part of the question is answered in the negative

by all the masters save four. These four state that questions have sometimes been shown to supervisors, or that they are always open to supervisors' inspection.

SIXTH QUESTION.

Produce, if you please, a specimen of the list of questions in which you say you have found it necessary to instruct your pupils in order to qualify them for the supervisors' examinations?

Twenty-one masters give no answer; their answers to other questions, for the most part, making an answer to this one unnecessary: Adams, Agassiz, Bennett, Brimmer, Chas. Sumner, Comins, Dillaway, Dorchester-Everett, Dudley, Dwight, Everett, Franklin, Geo. Putnam, Hancock, Hyde, Lawrence, Lowell, Sherwin, Stoughton, Tileston, Warren, — 21.

Fourteen masters apparently understood that this inquiry related not to questions prepared by themselves, but to supervisors' questions, and generally refer back to the supervisors' questions already produced in response to the fourth inquiry: Allston, Andrew, Bigelow,[4] Bowdoin,[4] Chapman,[4] Dearborn,[4] Eliot, Harris,[4] Harvard,[4] Hillside, Lewis,[4] Mather,[4] Minot,[4] Quincy, — 14.

Eight make a general answer, but produce no questions: Bunker Hill, Gaston, Mt. Vernon, Prescott, Prince, Shurtleff, Wells, Winthrop, — 8.

Six say that no special instruction is given in their schools to prepare pupils for supervisors' examinations: Emerson, Frothingham, Gibson, Lincoln, Norcross, Phillips.

One, the master of the Lyman, produces a list of one hundred questions which he uses in the manner stated in the inquiry.

SEVENTH QUESTION.

Were the matter left wholly to your own judgment, would you teach considerably less in amount of arithmetic than is now taught?

Note. — (4) Reference made to the answer of the 4th question.

Twenty-five masters answer YES: Agassiz, Bowdoin, Brimmer, Chapman, Chas. Sumner, Dillaway, Frothingham, Gaston, Geo. Putnam,[q] Hillside,[q] Hyde,[q] Lewis, Mather, Minot, Mt. Vernon, Phillips, Prescott, Prince, Sherwin, Stoughton, Tileston, Gibson, Hancock, Harris, Harvard,[q] — 25.

Five say "some less": Bigelow, Bunker Hill,[s] Dor. Everett, Shurtleff,[s] Wells,[s] — 5.

Twenty answer No: Adams, Allston, Andrew, Bennett, Comins,[s] Dearborn, Dudley, Dwight, Eliot,[s] Emerson,[s] Everett, Franklin,[s] Lawrence, Lincoln, Lowell, Lyman, Norcross, Quincy,[s] Warren, Winthrop, — 20.

The simplifications desired in the grammar grades are stated in answer to the next inquiry. In the Primary schools the complaints arise almost wholly from the nature of the questions set for examination.

EIGHTH QUESTION.

If you would deem it best to make the instruction in arithmetic other in character than it now is, please indicate the changes you would think it advisable to introduce: First, What topics you would omit from the Course of Study in arithmetic? Second, How you would treat the topics not omitted differently from the manner in which they are now treated?

Sixteen masters call for simplification of the primary-school work: Agassiz, Allston, Andrew, Bigelow, Bowdoin, Brimmer, Bunker Hill, Chapman, Chas. Sumner, Comins, Dearborn, Franklin, Gaston, Hillside, Hyde, Shurtleff, — 16.

All the simplifications called for can be met by altering somewhat the character of the examination papers. A few masters, however, say that they would prefer to have the primary examinations abolished altogether.

Simplification of grammar-school work suggested by masters of schools in the following list. The letters written after the name of each school refer to the topics proposed to be omitted, for which see p. 19.

Note. — q: qualified answer; s: simplifications desired.

Agassiz — *a*, *f*, *j*.
Andrew — *f*.
Bennett — *p*, *h*, *j*, *cc*, *bb*.
Bigelow — *b*, *s*, *u*, *k*.
Bowdoin — *f*, *p*, *q*, *t*, *u*, *w*, *x*, *y*, *z*, *aa*, *bb*, *cc*, *gg*.
Brimmer — *q*, *w*.
Bunker Hill — *a*, *m*, *o*.
Chapman — "*a general cutting down.*"
Charles Sumner — *a*, *l*, *m*, *i*, *k*, *v*, *w*.
Dillaway — *a*, *w*, *hh*.
Dorchester-Everett — *j*, *w*.
Eliot — *a*.
Emerson — *a*.
Franklin — *a*, *h*, *x*.
Frothingham — *x*, *j*, *t*, *v*, *r*.
Gaston — *a*, *c*, *d*, *h*, *l*, *t*, *w*; "*a general cutting down.*"
George Putnam — *a*, *c*, *t*.
Gibson — *t*, *x*.
Hancock — *a*, *j*, *v*, *w*, *ff*.
Harris — *h j*, *o*, *u*, *z*, *x*.
Harvard — *a*, *l*.
Hillside — *a*, *j*, *x*, *p*, *q*.
Lewis — *m*, *j*, *v*, *u*, *z*, *y*, *dd*, *ee*.
Mather — *f*, *h*, *j*, *o*, *cc*, *bb*.
Minot — *h*, *v*, *u*, *t*, *x*, *y*, *z*, *s*.
Mt. Vernon — *v*, *x*.
Phillips — *j*, *p*, *q*, *s*, *w*, *u*, *x*, *y*, *z*.
Prescott — *a*, *x*, *h*, *o*, *t*, *w*.
Prince — *a*, *c*, *f*, *h*, *j*, *m*, *p*, *q*, *r*, *t*, *w*, *x*, *aa*.
Sherwin — *g*, *k*, *s*, *w*, *aa*.
Shurtleff — *a*, *j*.
Stoughton — *m*, *u*, *v*, *z*.
Tileston — *t*, *w*, *x*.
Warren — *j*, *z*.
Wells — *a*, *w*, *x*.
Winthrop — *b*, *w*.

Topics above Referred to.

a	— Omitting difficult applications of principles .	16
b	— Decimals in the fifth and sixth classes . .	2
c	— Compound numbers (most of it) . . .	3

d	— Multiplication and division of compound numbers	1
e	— All but one method of finding interest	1
f	— Compound interest	5
g	— The *table* in compound interest	1
h	— "Problems" in interest	8
i	— Present worth	1
j	— True discount	13
k	— Discount	3
l	— Commission, stocks, dividends, brokerage, taxes, bonds, insurance	3
m	— Customs and duties	5
o	— Commission included in remittance; face of note to bring certain proceeds	4
p	— Merchants rule in partial payments	5
q	— U.S. rule in partial payments [1]	5
r	— Partnership	2
s	— Ratio and proportion	4
t	— Compound proportion	9
u	— Exchange	8
v	— Equation of payments and average of accounts,	8
w	— Mensuration (except the very simplest).	13
x	— Metric system	13
y	— Similar surfaces	3
z	— Cube root	7
aa	— Applications of square root	3
bb	— Sphere	3
cc	— Triangles where three sides are given	3
dd	— Duodecimals	1
ee	— Circulating decimals	1
ff	— Longitude and time	1
gg	— Reduction	1
hh	— The logic of greatest common divisor and least common multiple.	

It may be said of these topics that *a*, *c*, *d*, *e*, *g*, *u*, *v*, *y*, *z*, *gg*, *hh* are within the discretion of the master to limit, or in the case of *u*, *v*, *y*, *z* to omit; *dd*, *ee* are not in the course of study, and *dd* not in the text-book.

[1] *Note.* — There are *four* who would omit *both* rules.

EIGHTH QUESTION — SECOND PART.

How you would treat the topics not omitted differently from the manner in which they are now treated ?

The answers to this part indicate but little desire to change methods, except in the primary schools. Here there seems to be a desire to go back to the old-fashioned work of drill upon tables. More drill on "abstract numbers" and tables, less time on "concrete examples," is what many say. Still most of those who answer would make no radical change even here. What they desire would probably be met by changing the character of the examination papers.

NINTH QUESTION.

Do you recommend the memorizing at first of the multiplication and other tables ?

0 = No. 1 = Yes. q = qualifications.

Adams	0	Hancock	0
Agassiz	0	Harris	0
Allston	1	Harvard	0^q
Andrew	1^q	Hillside	0
Bennett	0	Hyde	?
Bigelow	0	Lawrence	0
Bowdoin	0^q	Lewis	0
Brimmer	0	Lincoln	0
Bunker Hill	0	Lowell	0
Chapman	0^q	Lyman	1
Chas. Sumner	1	Mather	0
Comins	1^q	Minot	0
Dearborn	1^q	Mt. Vernon	1
Dillaway	0	Norcross	1
Dor.-Everett	1	Phillips	0
Dudley	0	Prescott	0
Dwight	?	Prince	0
Eliot	?	Quincy	1
Emerson	0	Sherwin	0
Everett	0	Shurtleff	0
Franklin	0	Stoughton	1
Frothingham	0	Tileston	1^q
Gaston	0	Warren	1
Geo. Putnam	0	Wells	0
Gibson	1	Winthrop	1

TENTH QUESTION.

Has there been, since 1875, an earlier and more extended introduction of technical application (as to mensuration, solid geometry, interest, commissions, weights, and moneys), or of so-called practical problems? And is there as much of it at present as prev. usly?

1=Yes. 0 = No. X = Answers to another point.

Adams	0	Harris	1.0
Agassiz	1	Harvard	0.0
Allston	1.1	Hillside	1.1
Andrew	—	Hyde	1.0
Bennett	—	Lawrence	1.1
Bigelow	0.0	Lewis	0
Bowdoin	—	Lincoln	X
Brimmer	1.1	Lowell	0
Bunker Hill	1.1	Lyman	1.0
Chapman	X	Mather	.0
Chas. Sumner	1	Minot	1.0
Comins	1	Mt. Vernon	1.0
Dearborn	0[a].1	Norcross	0.1
Dillaway	1.1	Phillips	1
Dor.-Everett	1.1	Prescott	1.0
Dudley	0	Prince	1.1
Dwight	0	Quincy	—
Eliot	—	Rice	—
Emerson	1	Sherwin	1.0
Everett	0	Shurtleff	—
Franklin	1	Stoughton	—
Frothingham	X	Tileston	1.1
Gaston	1.1	Warren	—
Geo. Putnam	0	Wells	—
Gibson	0	Winthrop	1.0
Hancock	1.0		

a — Except in mensuration.
b — Dillaway says *more* mensuration than formerly.
Dudley " *less* " " "

ELEVENTH QUESTION.

What, if any, has been the effect thereof in producing accuracy and facility in strictly arithmetical operations on

the part of pupils throughout the classes? Explain and show the comparative working and results of the present and of any former method which you believe produced better results.

Adams. — Accuracy and facility come by long practice and intense application.

Agassiz. — Unable to state.

Allston. — It has caused less time and attention to be given to the tables (in the primary schools) from the effect of which we suffer in the upper classes to-day, both in facility and accuracy of work.

Andrew. — Not as accurate in computation as ten years ago.

Bennett. — Unable to state.

Bigelow. — I cannot say that I think there is any marked difference in the grammar schools.

Bowdoin. — Unable to answer.

Brimmer. — Pupils do not perform strictly arithmetical operations with as much accuracy and facility as formerly. More time used to be given to abstract work.

Bunker Hill. — But little difference.

Chapman. — Pupils not so good in mental work, — not so quick and accurate as fifteen or twenty years ago. They look to the teacher to explain away every difficulty and remove every obstacle.

Chas. Sumner. — Whatever is beyond the capacity of the child, and tends to confuse his ideas, or is excessively laborious, produces slowness and inaccuracy.

Comins. — I do not think pupils are as accurate as formerly, when arithmetic was almost the only study to which pupils gave much thought.

Dearborn. — I fail to see any improvement either in accuracy or facility. I believe, however, if the concrete method now employed were supplemented with more of the abstract we should witness a gain in both accuracy and facility.

Dillaway. — I think we do not secure as great a degree of accuracy as when we taught fewer subjects.

Dor.-Everett. — To lessen such accuracy and facility.

Dudley. — My pupils are less accurate than in former years, owing chiefly to diminished time for practice.

Dwight. — There was greater facility in all kinds of arith-

metical operations throughout the classes when mental work was made more of.

Eliot. — (No answer.)

Emerson. — Pupils are much less accurate in arithmetical calculations than formerly. I ascribe the cause of this mainly to the neglect of drill in mental arithmetic, in the tables, and in simple operations with abstract numbers.

Everett. — There may have been a decline in the accuracy and facility with which strictly arithmetical operations are performed in consequence of the more extended use of practical problems in the lower grades. This would naturally follow, unless it were counteracted by long-continued daily practice upon the tables. Such practice has been kept up in the schools under my charge.

Franklin. — Pupils far less accurate than in other years.

Frothingham. — (Answer not to the point.)

Gaston. — More errors are made in figuring than in reasoning.

Geo. Putnam. — Pupils generally less accurate and ready with figures than formerly.

Gibson. — Accuracy and facility can only be acquired by mental work and drill.

Hancock. — Unable to judge.

Harris. — Accuracy has not increased, and I believe it is partly because we do not teach self-reliance, but help pupils too much.

Harvard. — The pupils seem not to be as accurateas formerly, but it may be only seeming, for I now graduate a greater proportion of my children.

Hillside. — Pupils are more accurate than they were before 1875; but they have not the facility they had then; too much concrete work has had a tendency to make the pupils slow.

Hyde. — There appears to be a growing want of accuracy and facility in all grades.

Lawrence. — To lessen somewhat accuracy and facility in strictly arithmetical operations.

Lewis. — Less accuracy and facility than formerly. Results of former methods may not have been better; they were different.

Lincoln. — (Not answered.)

Lowell. — There is no reason why arithmetic as taught to-day should not produce as good results as any former method.

Lyman. — (Answer not to the point.)

Mather. — Pupils not as accurate and facile as formerly, from the fact that the time devoted to arithmetic has been lessened.

Minot. — My impression is that there is less accuracy and facility, etc.; but I have no statistics on the subject.

Mount Vernon. — Less accuracy and facility than formerly . . . not all the result of method, but partly owing to diminished time.

Norcross. — The use of practical problems is to train the judgment, not the power of computation.

Phillips. — Pupils a trifle less accurate and facile than formerly. Pupils are as well fitted for their subsequent arithmetical work as they ever were.

Prescott. — A loss in accuracy attributable to a diminution of the time devoted to arithmetic.

Prince. — A falling off in accuracy and facility. Time wanting for practice. Too many topics in course of study.

Quincy. — There should be more pure arithmetic in the lower grades.

Sherwin. — Less accuracy than formerly.

Shurtleff. — The better results that we may have had at some previous time are mainly due, I think, to more hours per week given to the subject.

Stoughton — (No answer.)

Tileston. — The effect not always favorable in producing accuracy and facility.

Warren. — (No answer.)

Wells. — My impression is that there is less of accuracy and facility in strictly arithmetical operations.

Winthrop. — The tendency is to make children less accurate. They are apt to become superficial and less able to deal with the more difficult problems in the advanced classes.

SCHOOL DOCUMENT NO. 5 — 1887.

REPORT

OF

COMMITTEE ON SUPPLIES.

BOSTON:
ROCKWELL AND CHURCHILL, CITY PRINTERS,
No. 39 ARCH STREET.
1887.

In School Committee, Boston, April 26, 1887.

Ordered, That the Committee on Supplies be authorized to report in print, and that six hundred copies of the report be printed.

Attest:

PHINEAS BATES,
Secretary.

NINTH ANNUAL REPORT.

Boston, May, 1887.

To the School Committee: —

The Committee on Supplies, in accordance with the Rules of the School Board, herewith submit their annual report for the financial year 1886–87 : —

Under the statutes of Massachusetts, a uniform method is provided for supplying text-books and other school equipment to pupils attending the public schools throughout the Commonwealth, cities and towns being responsible only for the rules and regulations made governing the loaning of books and the supplying of materials required for school-work.

Between one-seventh and one-sixth of the population of the city attended the public schools during the past year, and, in accordance with the free text-book act, they received text-books as a loan and other school material as a gift. The past year was the third year during which pupils were supplied under this law.

The practical working in Boston of the new law is progressing very favorably, and many principals report that the books are better cared for than if the pupils owned them. This is owing in a great measure to the oversight of the instructors, who are required to examine the books each month. The number of books lost is comparatively small; and in many cases they are replaced by the pupils who lost them.

In February, 1886, this committee presented to the Committee on Accounts, in accordance with the rules, an estimate of the amount required for this department, which was accepted by them and approved by the School Board.

The amount requested was $157,300.

The City Council reduced this estimate to $131,600, and, in addition, it was necessary to still further reduce the amount that could be expended, on account of the lack of a sufficient appropriation granted for salaries of instructors, in order to enable the School Committee to keep their total expense within the whole appropriation granted. The balance of the appropriation not needed for salaries of instructors, officers, and janitors amounted to $124,651.14, and this was the total amount that could be spent by this department without reducing salaries or lessening the number of employees, if the instructions of His Honor the Mayor were to be carried out, viz., that the School Board should incur no expenditure in excess of the appropriation.

Of the $124,651.14 available for this department, the expense for fuel, gas, and water, which it would be difficult to limit, amounted to $57,387.05, and the salaries of the persons employed in delivering supplies and tuning pianos, (which items are charged to school expenses) amounted to $6,020.01. Deducting these amounts from $124,651.14, it leaves $61,244.08 (less than $1.00 per pupil) as the total amount that could be expended for furnishing free textbooks and supplies, printing, the annual festival, diplomas, manual training supplies, and other expenses of the School Department, outside of salaries and fuel, gas, and water.

By the utmost economy the cost of these items was reduced to $61,184.66, and the appropriation not exceeded; but the wisdom of employing the most experienced teachers at large salaries, and then restricting them in the use of such books of reference and other materials as are required to produce the best results, may well be questioned.

The expenditures for the year have been as follows: —

Text-books	$21,121 46	
Writing-books	5,546 40	
Drawing-books	4,940 77	
Reference-books	405 68	
Record-books	310 59	
		$32,324 90
Books for Supplementary Reading		1,693 92
Annual Festival		1,821 18
Globes, Maps, and Charts		720 09
Musical Expenses: —		
Instruments, Repairs, and Covers		1,597 50
Printing and Stock		4,620 81
Philosophical, Chemical, and Mathematical Apparatus and supplies		1,035 15
School Census		999 50
Stationery and Drawing Materials		8,972 44
Slates, Diplomas, Pencils, and Erasers		2,954 79
Advertising		238 47
Military Drill, Arms, etc.		230 65
Fuel	$48,314 04	
Gas	4,691 17	
Water	4,381 84	
		57,387 05
Janitors' and other supplies		3,115 70
Cost of work for delivering supplies, including salaries, expenses of teaming, repairing apparatus, etc.		4,820 01
Miscellaneous: —		
Sewing materials	$128 12	
Teaming	48 55	
Extra clerk-hire	85 50	
Horse and carriage expenses	517 60	
Car and ferry tickets	497 79	
District telegraph and telephone	124 30	
Sundry items	142 35	
		1,544 21
Manual Training Schools		515 35
Total for School Expenses		$124,591 72

Gross expenditures for schools, under the charge of the Committee on Supplies		$124,591 72
Less the following credits: —		
Sale of books and supplies:		
High Schools	$35 24	
Grammar Schools	37 50	
Primary Schools	20 18	
Evening Schools	8 21	
Rebate, Boston Gas-Light Co.	170 38	
		271 51
Net expenditures		$124,320 21

The receipts for books during the year were from pupils who were obliged to replace books lost or injured; and they were paid to the City Treasurer, and credited by him to school expenses.

The net amount expended during the past year by this committee shows a decrease, as compared with that of the previous year, of $21,625.62.

At the opening of the schools in September last the following instructions were sent to all the teachers, to guide them in their work: —

Mason Street, Boston, Sept. 1, 1886.

To the Instructors in the Public Schools: —

Text-books will be loaned to the pupils in the public schools, and school supplies will be furnished to them, during the coming year, in the same manner as last year; but no books will be sold to pupils, the provisions of law requiring such sale having been repealed by the Legislature.

The books are to be loaned to the pupils "free of charge, subject to such rules and regulations as to care and custody as the School Committee may prescribe." A statement of these rules will be found in the label of each text-book, and the teachers are required to see that they are enforced.

Books are to be loaned only to those pupils who are not otherwise supplied with them.

Books lost or injured by pupils must be replaced by them. New

books may be obtained for this purpose at the School Committee building, at cost prices.

Any new book which is found to be unfit for further use after one year's service or less should be considered to have been misused, and should be replaced by the pupil.

Books should not be withdrawn from use while they are still serviceable; the expense of supplying fresh copies of text-books to every pupil cannot be incurred.

Teachers are requested to keep an oversight at all times of books loaned to pupils, and to examine such books very carefully at least once in each month. Principals should appoint a time in each month for this examination, and should see personally that it is carried out.

Teachers will be held responsible for all books lost unless satisfactory explanation is made to the Committee on Supplies.

Teachers in the High Schools will take receipts, as heretofore, for books loaned.

The text-book accounts with the principals and the Primary-School teachers were more satisfactorily rendered the past year than during the previous year; and it is hoped that such care may be taken by the instructors that the text-book accounts to be submitted at the close of this year may be uniformly correct.

Principals of High and Grammar Schools will continue the plan of last year in keeping the accounts with their subordinate teachers, taking receipts for books given out, and giving receipts for books returned. Additional copies of Receipt Book No. 1 and Receipt Book No. 2 will be furnished upon application to the Committee on Supplies.

Subordinate teachers of High and Grammar Schools and Primary-School teachers are expected to keep an accurate account of the books loaned to each pupil by a proper record in the account book. If no account book has been supplied to a teacher, one will be furnished upon application to the Committee on Supplies.

Writing-books, drawing-books, stationery, and drawing material will be furnished the same as last year, the principals confining themselves to the amount allowed to their schools respectively, according to the number of their pupils; and the teachers are requested to see that all supplies furnished by the city are economically used.

All orders for books and materials required during the year should be made out from the regular order-books supplied to the schools.

The Committee on Supplies request that careful attention be given to the foregoing instructions.

JAMES C. DAVIS,
Chairman Committee on Supplies.

To properly protect the interests of the city in the matter of looking after 262,155 books supplied the schools, at an expense of about $120,000, which property is in the charge of 1,200 teachers, it is essential that accounts be kept and rules enforced. While it would be desirable to lessen the clerical work of the teachers as much as possible, a certain amount is absolutely necessary to carry out the plan; and the success or failure of the free text-book act largely depends upon the management of, and the care taken in, this work.

The carrying out of the free text-book law during the past year was accomplished with very little friction. The instructors have familiarized themselves with the details of the work, and the necessary accounts have been more accurately kept than in previous years.

It was thought that under the free-book system many parents would object to allowing their children to accept the loan of text-books; but experience has shown that parents, with very few exceptions, approve the use of city property by their children.

While it is true that many pupils having the required text-books at home bring them for use in school, it is equally true that very few pupils, probably less than one per cent., purchase books in preference to being supplied by the city.

With the exception of a few additional books, authorized for the Latin and High Schools during the year, no change was made in the prescribed list of text-books.

The Committee on Text-books recommended that the new Franklin Fourth and Fifth Readers be substituted for the old edition, as needed; but the School Board did not adopt the recommendation, on the ground of economy.

Under the present plan the city is the owner of a large number of the different text-books used; and a change substituting one book for another would, in many cases, involve much expense unless the publishers of the book introduced could be induced to make favorable terms in the way of exchange.

The number of books returned from the schools, as worn out during the year, was as follows: —

High Schools	29
Grammar Schools	2,043
Primary Schools	4,326
Total number of books sent back as worn out	6,398

The number of books returned as worn out the previous year was 3,582, making a total for two years of 9,980.

When it is considered that the schools have used about 50,000 second-hand books and 115,000 new books two years, and 60,000 new books one year, and that of this total of 225,000 books used only about four per cent. was returned for two years as worn out, no further argument would seem to be needed to show that the books are being well cared for.

The 6,398 books returned the past year as worn out were examined and divided into three classes. A large number, representing the first class, were rebound at an average expense of about fifteen cents per copy, and returned to the schools for further use. In the second class the books were found to be unfit to rebind, but almost too good to be destroyed: and arrangements were made with some of the publishers by which a new book was allowed for five old ones. The third class, representing the balance, contained books considered unfit for further use in our schools; and these were exchanged by a bookseller for books that could be used. By these methods, the books returned during the year as worn out were used to the best possible advantage.

This work entailed much labor; but it was felt necessary to use all proper means to lessen the cost and to procure as many books as could be used, for as little money as possible. The schools were supplied with all the text-books required, as under the law they should be, your committee exercising very little control over the number of text-books sent to the schools.

The number of books reported lost during the year was as follows: —

High Schools	26
Grammar Schools	225
Primary Schools	211
Evening Schools	202
Total number of books reported lost	664

The books reported lost equalled about one-quarter of one per cent. of the books loaned. Many of the books were lost on account of pupils who moved out of the city and could not be found.

The number reported as being lost the previous year was 731, making a total loss of 1,395 books for the two years.

If the experience of the past two years is a fair criterion of the future, regarding the care taken of the text-books, the cost for supplying pupils under the present plan will be less than was anticipated or could have been expected from the results obtained years ago by the city in loaning books to a portion of the pupils.

The cost for supplementary reading the past year was $1,693.92. Little else was attempted in this direction outside of the purchase of a few sets for the circulating plan in Grammar Schools, and such books as were needed to partially make good the wear and tear of those in use. It will require at least $2,000 per annum to keep in good condition the $20,000 worth of books for supplementary reading now in the schools, without any expenditure for additional books of this character.

The Grammar and Primary Schools are now fairly well supplied with circulating supplementary reading, the books in the Grammar Schools being changed every three months, and those in the Primary Schools every month. This arrangement is proving very satisfactory, and is productive of good results.

The number of text-books charged, April 1, 1887, to the several High Schools was 35,764, an average of more than 12 books for each pupil. These books were loaned to the pupils, having been purchased at an average cost of about 80 cents per copy.

The books are distributed among the schools, as follows : —

Normal School	838
Latin School	5,986
Girls' Latin School	2,482
English High School	7,089
Girls' High School	8,605
Roxbury High School	3,113
Charlestown High School	2,485
East Boston High School	1,567
Dorchester High School	1,631
West Roxbury High School	1,073
Brighton High School	895
Total number of books in High Schools	35,764

On the two following pages will be found a tabulated statement showing the number of each of the different kinds of text-books charged to the several Grammar Schools. In addition the original cost of the books charged each school is given. These books were ordered by the principals, as being required for the use of the pupils.

From the statement presented it will be noticed that the Lawrence School is charged with the greatest number of text-books, 5,300, representing a cost of $2,690.36 ; and the Tileston School the smallest number, 461, at a cost of $253.34.

The average number of text-books charged to each school is 3,176, furnished at an average cost of $1,566.99.

GRAMMAR SCHOOLS.

Number of Books in each School, Whole Number and Original Cost of same to April 1, 1887.

Schools.	Adv. Third Reader.	Fourth Reader.	Adv. Fourth Reader.	Fifth Reader.	Sixth Reader.	Dictionary.	U.S. History.	English History.	Elementary Arithmetic.	Written Arithmetic.	Small Geography.	Large Geography.	Language Lessons.	Philosophy.	Int. Music Reader.	Fourth Music Reader.	Spelling Book.	Book-keeping.	Nat. History and Language.	Physiology.	Total No. of Books.	Original Cost of Books.
Adams	127	120	120	136	34	128	173	43	130	216	261	280	210	33	322	182	326	45	227	56	3,169	$1,530 64
Agassiz	60	111	60	79	28	97	84	36	68	177	108	201	90	27	197	97	6	. . .	. . .	40	1,566	907 55
Allston	133	150	153	74	42	74	133	43	293	154	253	204	131	28	306	114	321	43	36	52	2,737	1,276 87
Andrew	179	88	183	204	34	179	166	42	424	232	335	353	160	37	466	165	483	39	60	56	3,835	1,866 45
Bennett	111	115	104	124	37	182	163	40	179	227	215	285	164	39	305	160	325	42	193	58	3,068	1,517 80
Bigelow	197	100	210	210	56	96	151	62	425	279	355	370	171	56	483	205	481	. . .	. . .	58	3,965	1,914 90
Bowdoin . . .	85	45	81	91	31	122	106	33	117	186	164	154	95	31	208	87	182	. . .	. . .	44	1,862	979 93
Brimmer . . .	206	101	151	141	40	187	158	39	335	233	323	262	185	39	401	188	402	40	178	56	3,665	1,713 80
Bunker Hill . .	191	122	178	160	47	105	172	47	182	280	352	305	186	47	462	193	480	47	. . .	60	3,616	1,759 83
Chapman . . .	169	101	156	86	45	160	118	50	276	168	285	230	125	41	336	158	349	49	126	56	3,084	1,449 94
Charles Sumner,	115	78	97	53	23	75	62	28	112	106	205	136	66	26	267	72	205	28	75	35	1,864	862 63
Comins	112	151	106	180	46	215	201	49	232	262	246	320	205	46	348	212	370	48	. . .	107	3,456	1,812 28
Dearborn . . .	254	195	152	207	79	297	233	84	506	253	418	403	264	84	472	290	521	. . .	30	114	4,856	2,423 47
Dillaway . . .	115	157	122	163	37	205	201	49	247	261	227	356	195	39	351	224	357	40	. . .	120	3,466	1,822 50
Dor.-Everett .	141	134	147	109	48	185	162	53	304	180	254	264	169	56	372	157	345	50	. . .	65	3,195	1,592 38
Dudley	200	125	164	139	51	206	175	55	19	279	340	311	205	51	520	117	441	. . .	. . .	101	3,499	1,790 28
Dwight	160	172	121	150	77	188	194	49	231	273	244	325	190	46	361	211	381	46	. . .	111	3,530	1,834 68
Eliot	253	162	209	181	43	248	238	37	515	322	416	387	248	44	683	184	659	37	. . .	60	4,926	2,336 13
Emerson . . .	240	109	124	147	41	172	197	46	375	204	353	326	171	46	423	173	475	44	. . .	90	3,756	1,826 71
Everett	124	108	159	208	49	261	246	58	288	239	253	368	241	52	340	281	340	58	265	116	4,054	2,052 50
Franklin . . .	167	160	166	168	56	231	208	48	348	241	300	365	210	52	460	148	408	57	. . .	116	3,909	1,980 07
Frothingham .	213	103	105	126	42	90	153	43	296	198	271	255	157	44	352	176	384	43	. . .	52	3,103	1,483 59
Gaston	176	121	140	111	60	144	164	46	393	160	269	253	172	33	377	117	440	1	. . .	52	3,229	1,524 61

George Putnam,	51	46	53	83	39	120	109	29	117	130	87	169	114	33	127	135	137	33	100	54	1,766	928 22
Gibson	93	61	133	121	51	155	133	51	218	196	183	231	151	16	228	162	248	30	229	59	2,749	1,334 47
Hancock . . .	165	104	115	84	39	128	93	41	179	151	261	199	120	38	383	69	357	2	112	56	2,696	1,231 57
Harris	96	56	54	52	51	86	87	25	61	121	143	158	94	26	192	105	188	26	71	41	1,733	871 46
Harvard	143	156	111	188	41	245	202	44	286	248	234	303	200	41	392	182	. . .	42	. . .	107	3,165	1,745 39
Hillside	70	54	75	78	38	113	103	31	153	89	133	139	92	42	161	103	196	34	167	60	1,931	918 68
Hyde	182	108	140	180	31	221	207	37	314	241	254	322	207	33	364	221	365	38	302	105	3,872	1,855 43
Lawrence . . .	272	213	216	197	54	261	281	60	148	493	462	489	264	56	632	269	765	54	. . .	114	5,300	2,690 36
Lewis	146	54	162	173	90	237	184	92	238	215	237	292	240	93	311	234	305	89	. . .	116	3,508	1,868 77
Lincoln	266	164	176	206	50	259	227	50	518	345	459	348	258	50	617	149	564	53	. . .	104	4,863	2,331 44
Lowell	182	118	157	166	60	140	184	65	344	250	319	327	205	63	421	207	433	60	265	106	4,072	1,899 31
Lyman	196	44	150	147	37	151	129	32	173	284	287	204	155	38	347	119	340	30	239	70	3,172	1,475 81
Martin	155	112	141	153	42	126	18	44	260	239	247	317	185	40	339	199	368	43	. . .	112	3,307	1,675 92
Mather	110	98	118	110	39	117	145	42	234	183	206	228	118	41	289	125	291	42	118	56	2,710	1,313 82
Minot	76	69	53	67	24	88	77	27	57	115	116	56	76	25	162	102	186	25	. . .	45	1,546	813 19
Mt. Vernon . .	43	36	50	38	20	64	53	23	85	63	79	87	59	21	120	42	129	24	. . .	32	1,071	537 12
Norcross . . .	225	150	173	130	34	184	155	33	352	277	390	325	161	35	526	185	513	35	. . .	57	3,940	1,881 81
Phillips	170	170	170	150	50	230	165	50	340	305	328	350	195	50	560	100	470	50	340	60	4,303	1,973 10
Prescott	113	100	114	90	35	130	129	. .	118	187	217	224	132	39	280	125	. . .	. . .	. . .	58	2,091	1,148 28
Prince	109	89	68	130	50	174	134	52	176	178	160	242	151	52	279	159	232	53	. . .	78	2,566	1,365 00
Quincy	231	174	. . .	143	4	184	161	45	312	247	295	285	188	46	415	151	397	2	. . .	52	3,332	1,629 23
Rice	145	213	155	133	49	168	148	53	282	279	278	330	181	45	381	167	393	46	. . .	56	3,502	1,760 56
Sherwin	200	113	121	141	37	172	160	37	325	258	315	301	171	35	378	176	410	34	329	56	3,769	1,720 53
Shurtleff . . .	169	105	100	158	91	177	140	59	302	250	251	347	160	58	389	171	383	51	. . .	56	3,417	1,751 03
Stoughton . . .	79	68	68	91	18	122	101	21	124	145	135	169	107	2	244	78	161	20	127	43	1,923	942 93
Tileston	21	25	. . .	26	9	33	27	10	29	43	31	43	28	11	38	28	37	10	. . .	12	461	253 34
Warren	190	160	175	110	50	100	150	50	200	200	275	305	160	50	370	140	400	45	. . .	62	3,192	1,559 44
Wells	134	90	110	81	41	122	92	41	237	138	206	186	111	43	268	127	259	40	220	56	2,602	1,181 26
Winthrop . . .	242	173	181	220	157	253	218	68	388	442	403	423	243	65	613	252	654	. . .	28	112	5,138	2,566 31
Total Number of Books .	8,002	5,951	6,547	6,893	2,377	8,410	8,037	2,292	12,865	11,445	13,438	14,212	8,536	2,184	18,638	8,193	17,862	1,768	3,837	3,670	165,157	$81,483 32

The total number of text-books charged to the Grammar Schools is 165,157, which allows about five and one-half for each pupil. These books were furnished at an average cost of about 49 cents each.

The text-books furnished for the use of the pupils in the Primary Schools are as follows: —

Franklin Adv. First Reader	10,915
" Second Reader	8,379
" Adv. Second Reader	6,675
" Third Reader	7,963
First Music Reader	14,719
First Lessons in Natural History, Part 1 or 2	5,583

— making a total of 54,234 text-books in the Primary Schools, averaging about two and one-quarter books for each pupil, at an average cost per book of about 21 cents.

The total number of text-books now in the schools represent a cost as follows: —

High Schools	35,764	books, at a cost of		$28,750 51
Grammar Schools	165,157	"	"	81,483 32
Primary Schools	54,234	"	"	11,392 99
Total number of books,	255,155	"	"	$121,626 82

In addition to the books furnished to the regular grades of schools, the Evening High and Evening Elementary Schools require for use about 7,000 text-books, the original cost of which amounted to about $3,000.

These books are sent to the Evening Schools at the opening of each term, and at the close they are brought back to Mason street to remain until the schools reopen.

The cost of the text-books owned by the city when new, now in the schools, was about $124,626.82.

From information received it is estimated that over ninety per cent. of the text-books used by pupils are owned

by the city, leaving less than ten per cent. owned by the pupils. During the present year this ratio will be reduced largely; so that by the close of the coming year the city will own nearly all of the books required for use in the schools.

The annual cost for books after the close of the present year, provided no change is made in the text-books, will be mostly confined to supplying new books to the additional pupils and to replacing worn-out books.

The School Committee is a large buyer of paper needed for writing purposes. Early in the year bids were obtained for 4,600 reams of paper, 75,000 blank writing-books, and other articles of stationery. The sharp competition among certain dealers enabled the city to obtain what was needed at very low prices.

The lead-pencils used have been furnished for many years by the Joseph Dixon Crucible Co., and the Eagle Pencil Co. These manufacturers are paid the same prices for equal grades of pencils, and the principals are supplied with whichever maker's goods they prefer. This arrangement has the effect of keeping up the quality, as otherwise the company furnishing an inferior article would lose, at least, a part of their trade, — a matter of no small importance to them.

The total cost for the stationery and drawing materials purchased during the year amounted to $8,972.44.

The net cost of furnishing books and supplies to the 62,259 pupils attending the several schools the past year amounted to $43,884.73, — an average cost for each pupil of about 70 cents.

The cost per scholar each year since the free text-book act went into operation was as follows: —

1884–85,	$73,682 46,	average cost . . .	$1 23
1885–86,	59,867 12,	" " . . .	98
1886–87,	43,884 73	" " . . .	70

From the statement above it can be noticed that the cost to the city for loaning books and furnishing stationery and

drawing materials each year for the past three years averaged 97 cents per pupil. It is fair to presume that the plan can be continued at about this expense annually.

The average cost to the city for the three years preceding 1884–85 was 33 cents per pupil, so that the financial result of the free text-book act in Boston has been to add 64 cents to the yearly cost of educating each pupil, and to relieve the parents of a somewhat larger expenditure that they would otherwise have incurred had they been obliged to purchase books for their children.

During the past year 10,559 tons of coal were sent to the various schools, at an average cost of about $4.40 per ton. The prices paid per ton in the different sections of the city were as follows: City proper, $4.29; South Boston, $4.27; East Boston, $4.33; Roxbury and West Roxbury, $4.52; Dorchester, $4.52; Charlestown, $4.17; Brighton, $4.73. The average price paid for the coal was less than in any year since 1879–80.

The wood was purchased from the Overseers of the Poor, at an average cost of about $10 per cord, which amount includes the sawing, splitting, and housing of the same.

Some of the new school-houses recently acquired use over 50 per cent. more coal than the older buildings. The Hyde and Martin school-houses, for example, will require yearly about 165 tons of coal each, while for older buildings, such as the Eliot and Winthrop, accommodating a much larger number of pupils, less than 100 tons each will suffice.

If it is essential to the health and comfort of the pupils attending the newly-acquired school-houses that so large an increase in the consumption of coal is required to secure proper ventilation, the question arises, should not the pupils attending school in the older buildings be favored with the same conveniences?

The total cost for fuel, gas, and water for the past year amounted to $57,387.05, — a reduction of $1,158.64 as compared with the cost for the previous year.

PIANOS.

For the past ten years the Perkins Institution for the Blind has had the charge of tuning the pianos in the public schools, the compensation allowed them being $1,200 per annum.

The work has been performed in such a manner that there seems to be no reason for making a change.

PIANOS IN THE SCHOOLS.

Chickering & Sons	108	Grand Pianos	51
Henry F. Miller	12	Square Pianos	85
Hallett & Davis	10		
Brackett	3	Total	136
Hallett & Cumston	1		
Woodward & Brown	2	Good condition	73
		Fair condition	51
Total	136	Poor condition	12
		Total	136

The pianos owned by the city are distributed among the various grades of schools, as follows : —

High Schools	15
Grammar Schools	52
Primary Schools	69
Total	136

During the year a grand piano was purchased, at an expense of $365, from the Henry F. Miller & Sons Piano Co., and placed in the Martin School.

The cost for delivering supplies and making the necessary repairs on the philosophical apparatus during the past year was $4,820.01. This amount permitted deliveries to be made to the schools on an average of at least three times each month during the year.

The cost for printing and the stock used the past year was $4,620.81, which amount includes the expense for binding. The twenty documents issued during the year, the proceedings of the School Board, examination papers, programmes and tickets for the closing exercises of the several schools, were among the principal items of this expenditure.

The cost for printing has been very much reduced of late years. The average cost for the past five years was but $5,182.38, as compared with $9,831.27 for the five years previous to 1882–83, — a reduction of about one-half.

The expenses of the annual festival the past year were as follows: —

Rent of Mechanics' Hall including door-keepers	$127 50
Band	110 00
Bouquets	880 00
Collation	591 25
Transportation	92 50
Sundry items	19 93
Total cost of annual festival	$1,821 18

The cost the past year for car and ferry tickets was $497.79. In addition to the tickets used by the messengers employed in their semi-weekly trips to the schools, 2,356 car-tickets and $21.18 in money, to pay fares, were supplied to pupils in the Horace Mann School. East Boston pupils who attended the Latin and Central High Schools were furnished ferry-tickets to the number of 15,613.

The following expenditures were made for objects not chargeable to any particular school, but each grade is charged with what was estimated to be a fair proportion for the same: —

Annual Festival	$1,821 18
Horses and carriages, including repairs and carriage-hire,	517 60
Advertising	238 47
Expenses delivering supplies, etc.	4,820 01
Printing, printing-stock, binding, and postage	4,929 81
Car and ferry tickets, including steam-car fares for messengers	497 79
Telephone and District Telegraph	124 30
Transportation, Instructor of Military Drill, etc.	230 65
Tuning and repairing pianos	1,232 50
Diplomas	1,135 84
Express and carting, including fares	48 55
Census, including books for same	999 50
Furniture, repairs, paper, twine, etc.	58 68
Extra clerk-hire	85 50
Refreshments	18 75
Cases for delivering supplies	1 75
Subscriptions for newspapers	22 75
Rent of halls for exhibitions	25 00
Sundry items	5 00
Total	$16,813 63

The following shows the net expenditures properly chargeable to the different grades of schools for all items under the charge of this committee: —

HIGH SCHOOLS.

Books, drawing materials, and stationery	$7,914 60
Apparatus and chemical supplies	1,064 26
Fuel, gas, and water	7,558 70
Janitors' supplies	267 15
Miscellaneous items	337 10
Proportion of expenses not chargeable to any particular school	2,670 36
	$19,812 17
Income from sale of books to pupils	35 24
Net cost for High Schools	$19,776 93

Average number of pupils belonging, 2,944. Average cost per pupil, $6.72.

GRAMMAR SCHOOLS.

Books, drawing materials, and stationery		$29,983 17
Apparatus		35 11
Fuel, gas, and water		26,853 45
Janitors' supplies		1,632 63
Piano		365 00
Miscellaneous items		1,111 74
Proportion of expenses, not chargeable to any particular school		9,343 88
		$69,324 98
Income from sale of books to pupils	$37 50	
Rebate Boston Gas-Light Co.	170 38	
		207 88
Net cost for Grammar Schools		$69,117 10

Average number of pupils belonging, 30,689. Average cost per pupil, $2.25.

PRIMARY SCHOOLS.

Books, drawing materials, and stationery	$4,307 41
Apparatus	16 26
Fuel, gas, and water	19,000 88
Janitors' supplies	1,184 54
Miscellaneous items	1,105 53
Proportion of expenses not chargeable to any particular school	3,990 26
	$29,604 88
Income from sale of books to pupils	20 18
Net cost for Primary Schools	$29,584 70

Average number of pupils belonging, 24,540. Average cost per pupil, $1.21.

EVENING HIGH AND ELEMENTARY SCHOOLS.

Books and stationery	$891 81
Fuel and gas	2,368 32
Janitors' supplies	37 64
Miscellaneous items	17 17
Proportion of expenses not chargeable to any particular school	516 40
	$3,831 34
Income from sale of books to pupils	8 21
Net cost for Evening Schools	$3,823 13

Average number of pupils belonging, 3,423. Average cost per pupil, $1.12.

EVENING DRAWING SCHOOLS.

Drawing materials and stationery	$632 43
Gas	970 79
Janitors' supplies	9 47
Miscellaneous items	1 51
Proportion of expenses not chargeable to any particular school	251 46
Net cost for Evening Drawing Schools	$1,865 66

Average number of pupils belonging, 570. Average cost per pupil, $3.27.

HORACE MANN SCHOOL.

Books, drawing materials, and stationery	$44 18
Apparatus	5 35
Fuel, gas, and water	201 50
Janitors' supplies	7 90
Miscellaneous items	6 00
Proportion of expenses not chargeable to any particular school	41 27
Net cost for Horace Mann School	$306 20

Average number of pupils belonging, 75. Average cost per pupil, $4.08

MANUAL TRAINING SCHOOLS.

Lumber	$390 09
Hardware	37 09
Stationery	45
Crockery and kitchen materials	88 23
Apparatus	1 35
Janitors' supplies	5 76
Fuel	11 42
	$534 39

The pupils attending these schools belong to and are included in the number belonging to the other grades of schools.

SCHOOL COMMITTEE AND OFFICERS.

Books and stationery	$211 81
Fuel, gas, and water	421 99
Janitors' supplies	42 06
Miscellaneous items	39 64
Net cost for School Committee and Officers	$715 50

RECAPITULATION.

Net cost for supplies properly chargeable to: —		
High Schools		$19,776 93
Grammar Schools		69,117 10
Primary Schools		29,584 70
Evening High and Elementary Schools		3,823 13
Evening Drawing Schools		1,865 66
Horace Mann School		306 20
Manual Training Schools		534 39
School Committee and Officers		715 50
		$125,723 61
Stock on hand April 1, 1886	$25,476 46	
Stock on hand April 1, 1887	24,073 06	
Stock delivered, purchased previous to April 1, 1886		1,403 40
Total amount expended		$124,320 21

The foregoing represents the total net cost of the various grades of schools, exclusive of salaries, and is the expenditure made, not only for supplying pupils, but for furnishing the schools with the more permanent material which is constantly being required. It also includes the cost for fuel, gas, and water.

The average net cost for supplying each pupil in the High, Grammar, and Primary Schools the past three years with text-books and supplies required for school use, and furnished in accordance with the law, was as follows: —

1884-85.

High Schools	$6 09 per pupil.
Grammar Schools	1 57 "
Primary Schools	36 "

1885-86.

High Schools	$4.05 per pupil.
Grammar Schools	1.35 "
Primary Schools	24 "

1886-87.

High Schools	$2 68 per pupil.
Grammar Schools	98 "
Primary Schools	17 "

The average cost per pupil for the various grades each year for the past three years was as follows: —

High Schools	$4 27 per pupil.
Grammar Schools	1 30 "
Primary Schools	26 "

The gross amount expended during the year for books, drawing material, and stationery was $42,991.26.

In addition the schools were furnished with books, drawing material, and stationery from the stock on hand of the previous year to the amount of $994.60, — making the total cost of the books, drawing material, and stationery used during the past year $43,985.86, a decrease, as compared with that of the previous year, of $16,129.09.

The following is the value of the stock on hand at the close of each year for the past twelve years: —

1875-76	$23,652 17	1881-82	$31,117 10
1876-77	29,982 35	1882-83	26,125 89
1877-78	31,884 22	1883-84	19,608 54
1878-79	33,717 05	1884-85	26,710 93
1879-80	35,650 79	1885-86	25,476 46
1880-81	40,639 78	1886-87	24,073 06

It will be noticed that the stock on hand was reduced $1,403.40 during the past year.

On the last page of this report a comparative statement of expenditures for the past eleven years is given. This statement shows that, notwithstanding the fact that the city is obliged to furnish free books, the entire expense of the School Committee for the past year, exclusive of salaries paid instructors, officers, and janitors, was but $2.00 per pupil, of which sum about one-half was spent for fuel, gas, and water.

During the year James C. Davis, Esq., who had been chairman of this committee for three years, severed his connection with the School Committee. By his retirement the city of Boston was deprived of a respected and trusted official. The Committee on Supplies lost an able chairman, who freely gave much of his valuable time to the work of this department; and the public schools lost a strong friend and an able advocate, one who benefited the schools by his five years' official connection with them.

Respectfully submitted,

NAHUM CHAPIN, *Chairman*,
TIMOTHY J. DACEY,
RUSSELL D. ELLIOTT,
JAMES S. MURPHY,
JOHN C. CROWLEY,

Committee on Supplies.

Net Expenditures of the School Committee for the past Eleven Years, exclusive of the Amounts paid for Salaries.

	1876-77.	1877-78.	1878-79.	1879-80.	1880-81.	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.	1886-87.
Books, Stationery, and Drawing Mat'l	$75,629 76	$61,057 13	$63,473 78	$76,621 67	$21,003 26	$7,569 57	$15,309 74	$14,107 76	$80,779 82	$58,760 77	$42,890 13
Printing	10,456 17	14,327 71	11,731 19	8,292 03	7,401 84	7,403 57	4,885 23	5,471 94	5,614 66	5,319 25	4,620 81
Apparatus	8,465 11	8,830 80	9,356 06	4,479 45	5,033 33	3,241 91	897 19	871 56	1,230 38	1,807 02	1,035 15
Slates, Erasers, etc.	4,616 58	2,558 41	6,240 50	882 77	3,329 37	1,508 46	992 76	2,008 12	1,706 08	2,142 32	1,818 95
Pianos and Repairs	3,186 41	1,325 59	2,827 80	1,213 00	1,321 00	1,760 50	2,045 50	1,269 00	1,771 00	2,048 50	1,597 50
Annual Festival . .	3,273 36	5,304 27	2,375 19	2,009 67	1,975 49	1,890 24	1,907 34	2,837 98	1,834 17	1,949 19	1,821 18
Janitors' Supplies .	2,683 67	3,928 30	2,687 52	1,822 63	6,490 63	3,038 91	2,906 65	3,037 15	3,138 63	3,406 21	3,115 70
School Census . . .	1,885 00	1,437 12	1,396 12	1,620 40	1,042 75	943 45	905 00	935 00	1,003 00	1,094 90	999 50
Teaming	2,895 76	2,535 04	2,717 51	1,493 90	622 15	227 09	243 72	178 42	182 39	87 43	48 55
Advertising	1,444 48	1,311 86	917 31	821 42	617 29	442 93	202 05	222 48	265 69	245 88	720 09
Maps and Globes .	520 57	1,438 93	577 31	110 50	637 10	746 43	662 26	836 14	716 03	639 30	238 47
Delivering Supplies	. . . . .	. . . . .	. . . . .	9,000 00	12,000 00	12,000 00	12,000 00	12,000 00	7,040 83	5,160 00	4,820 01
Guns, Swords, etc.	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	9,462 00	. . . . .	. . . . .
Manual Training .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	1,711 53	515 35
Miscellaneous . . .	7,616 38	6,625 30	7,043 39	4,875 58	4,088 72	4,015 27	3,900 87	3,191 00	3,379 29	3,156 00	2,862 15
	$122,673 25	$110,680 46	$111,343 68	$113,243 02	$65,562 93	$44,788 33	$46,858 31	$46,966 55	$118,123 97	$87,528 30	$67,103 54
Fuel, Gas, and Water	55,490 16	53,321 70	47,678 94	40,920 22	57,483 62	57,593 17	60,863 11	66,068 59	61,325 41	58,417 53	57,216 67
Total net expenditure	$178,163 41	$164,002 16	$159,022 62	$154,163 24	$123,046 55	$102,381 50	$107,721 42	$113,035 14	$179,449 38	$145,945 83	$124,320 21

The total amount expended during the year was $124,591.-72, and was paid to the following parties : —

H. G. Jordan & Co.	$20,384 54	William Tufts . . .	$591 25
Dean & Co.	15,476 46	Clark & Maynard . .	585 85
Prang Educational Co.	5,061 74	Charlestown Gas Co.	551 15
Lee & Shepard	4,920 60	J. B. Lippincott Co. .	540 00
Services in Store-Room	4,820 01	Roxbury Gas-Light Co.	487 97
City of Boston . . .	4,572 84	South Boston Gas-Light Co.	460 02
Ginn & Co.	4,058 01	L. G. Burnham & Co.	451 60
Carter, Rice, & Co. .	3,399 69	Charles F. Shourds & Co.	426 20
Pulsifer, Jordan, & Pfaff	3,383 76	East Boston Gas Co.	410 94
B. F. Wild & Co. .	3,246 37	Cutter Tower Co. .	405 60
Rockwell & Churchill	3,232 65	A. R. Dunton . . .	402 30
J. Robbins & Co. . .	3,009 96	Proctor & Drummey .	390 09
Boston Gas-Light Co.	2,628 00	Henry F. Miller & Sons Piano Co. . .	365 00
Boston School Supply Co.	2,516 78	Henry Holt & Co. .	357 91
Taintor Bros. & Co. .	2,411 18	Carter, Dinsmore, & Co.	356 17
William Ware & Co.	2,267 75	Edward E. Babb & Co.	354 30
Gillespie & Pierce .	2,142 69	United States . . .	339 00
Cowperthwait & Co. .	1,922 70	Thompson, Brown, & Co.	322 79
George S. Perry . .	1,797 24	Emery & Greenwood,	319 00
Overseers of the Poor,	1,756 25	Willard Small . . .	302 88
Harrison Hume . .	1,585 58	D. J. Cutter . . .	261 90
F. M. Ambrose . .	1,318 84	Cutler Bros. & Co. .	240 59
Darling & Stebbins .	1,229 04	B. Westermann & Co.	237 60
Eagle Pencil Co. . .	1,215 56	Hyatt School Slate Co.	192 50
Perkins Institution .	1,200 00	J. Fred. Sayer, Jr. .	183 86
Charles H. Whiting .	1,097 25	Boston Cadet Band .	175 00
John W. Slavin . .	975 00	Educational Supply Co.	168 66
Harper & Bros. . .	966 70	Johnson & Morrison .	162 18
D. Appleton & Co. .	946 06	Houghton, Mifflin, & Co.	161 60
Murphy, Leavens, & Co.	915 50	James Delay . . .	160 00
John P. Dale & Co.	910 52	John Gormley & Son,	160 00
Jos. Dixon Crucible Co.	787 99	Norton Bros. . . .	160 00
Frost & Adams . .	699 56		
Boston Mat Co. . .	653 63		
American Bank Note Co.	598 99		

Samuel Hobbs & Co.	$159 85
Hobart Moore . . .	150 00
Wakefield Rattan Co.	138 53
Edmund Keyes . .	134 08
New England Mat & Brush Factory . .	124 55
Mass. Charitable Mech. Association.	121 50
J. Mooney	120 00
N. E. Telephone & Telegraph Co. . .	120 00
Warren J. Stokes . .	120 00
South Boston Savings-Bank	118 32
Henry Brooks & Co.	117 31
George F. H. Markoe	112 95
Carl Schoenhof . .	102 25
J. Newman & Sons .	100 00
Taintor Bros., Merrill, & Co.	100 00
S. W. Twombly & Sons	100 00
Warren-st. Chapel .	100 00
O. Lappen & Co. . .	96 71
Brookline Gas-Light Co.	92 96
Shepard, Norwell, & Co.	92 25
Boston Woven Hose Co.	90 00
Estes & Lauriat . .	90 00
Lizzie B. Tivnin . .	85 50
Wheeler, Conant, & Blodgett	80 21
William Edwards . .	75 00
C. N. S. Horner . .	75 00
Lalance & Grosjean M'f'g Co. . . .	71 73
DeWolfe, Fiske, & Co.	70 20
Esterbrook Steel Pen M'f'g Co.	68 50
C. H. Bartlett & Co.	64 71
A. P. Gage	63 49
W. O. Crosby . . .	$62 25
Ames Plow Co. . .	62 00
Winkley, Dresser, & Co.	60 32
Ivison, Blakeman, Taylor, & Co. . .	60 00
Metropolitan R.R. Co.	54 42
Whitall, Tatum, & Co.	51 82
Boston Consol. St. Railway Co. . . .	50 00
Moody Merrill . . .	50 00
Paul A. Garey & Co.	46 85
T. H. Reynolds & Co.	45 50
George A. Smith . .	44 00
A. J. Wilkinson & Co.	42 77
Dorchester Gas-Light Co.	41 52
Marston B. Bunker .	40 00
J. P. Clark	40 00
Dover Stamping Co. .	38 22
Mrs. C. E. Kingsbury,	38 17
Oscar F. Howe . . .	38 00
Journal Newspaper Co.	36 50
B. F. Fowler	35 00
Otis Clapp & Son . .	33 33
Ticknor & Co. . . .	31 50
Globe Newspaper Co.	31 00
John O. Hall . . .	30 65
R. M. Pulsifer & Co. .	29 00
Mass. Bible Society .	28 80
Rubber Clothing Co. .	28 50
Boston Transcript Co.	28 38
Arthur J. Scott . . .	28 15
J. L. Hammett	27 00
C. F. Whitmyre . .	27 00
Wadsworth, Howland, & Co.	25 75
Interstate Publishing Co.	25 68
John Allyn	25 67
Adeline L. Sylvester .	25 65
James G. Bowden . .	25 00

Charles C. Cushing	$25 00
M. L. Crosby	24 64
Boston Daily Advertiser	24 09
Warren P. Adams	23 96
Charles Stephan	23 52
Van Antwerp, Bragg, & Co.	22 72
Cashman, Keating, & Co.	22 50
Leach, Shewell, & Sanborn	21 75
Sarah Fuller	21 18
George Dunbar & Co.	21 06
J. H. Bronson & Co.	20 65
W. B. Clarke & Carruth	20 22
F. G. Perry	20 00
Boston Evening Record,	19 88
William H. Murphy	19 00
Post Publishing Co.	18 91
J. R. Whipple	18 75
Jamaica Plain Gas-Light Co.	18 61
H C. Kendall	17 70
Traveller Newspaper Assoc.	17 50
Henry C. Hardon	17 42
P. Tighe	16 47
D. C. Heath & Co.	16 34
George Jepson	16 19
Boston Ice Co.	15 75
William Read & Sons	15 65
First Cong. Soc. of Jamaica Plain	15 00
Jamaica Pond Aqueduct Corp.	15 00
George H. Munroe	$15 00
Francis A. Waterhouse,	14 95
Soule Photograph Co.	14 00
E. E. Torrey	14 00
Roland Worthington & Co.	14 00
Charles M. Clay	13 56
Eberhard Faber	13 50
John Gilbert, Jr., & Co.	13 49
South Boston Railroad,	13 26
Forbes Lithograph M'f'g Co.	12 60
W. B. & J. Foster	12 60
T. W. Mullen	12 50
M. Mullowney	12 50
A. G. Cheever	12 00
Thomas Groom & Co.	12 00
L. H. Wood & Co.	12 00
C. H. Codman & Co.	11 70
Suffolk Iron Works	11 66
Downer Kerosene Oil Co.	11 45
Davidson Rubber Co.	11 16
J. M. Russell	10 88
Charles A. Sibley	10 75
C. F. Hovey & Co.	10 20
Dorchester Lodge, 158, I.O.O.F.	10 00
Katherine Knapp	10 00
Sampson, Murdock, & Co.	10 00
Sundry bills less than $10	385 15
Total expenditure,	$124,591 72

TARIFF OF SUPPLIES.

In response to a circular the principals of High and Grammar Schools submitted in June last estimates of the supplies needed for the coming year beginning September 1st.

The requests varied so materially that it was decided the schools would be properly supplied, and, at the same time, waste prevented, if the average amount desired of each article was adopted as the tariff for that article.

To make allowances for some schools that require more of certain kinds of material and less of other kinds, a margin of twenty-five per cent. in excess of the tariff was allowed in adjusting differences.

Pupils are granted by law all material needed; and, when more is requested than is allowed by the tariff, the committee grant the additional supplies desired, after proper explanations are made by the principals.

The Primary Schools are supplied in accordance with the following tariff fixed by the committee: —

PRIMARY SCHOOLS.

PUPILS.

Slate Pencils, Lead Pencils, Rubber, and Paper, as wanted.

TEACHERS.

1 quire Letter Paper.	2 pieces Rubber.
¼ ream Note Paper.	4 Common Lead Pencils.
10 Government Envelopes.	2 Penholders.
2 packages Envelopes, note size.	1 gross of Pens to each 10 teachers.
1 small bottle Mucilage.	1 qt.-bottle Ink to each building.

SCHOOLS.

Chalk . . . . . 3 gross to each 100 pupils.
Slates . . . . . 40 to each 100 pupils.
Inkstands and Racks, Record Books, Primary-school Paper, Charts, Black-board Erasers, etc., as voted by the committee.

The following tariffs for High and Grammar Schools show the average amount of each article requested, according to the estimates submitted by the principals: —

HIGH SCHOOLS.

PUPILS.

Examination Paper	12 reams to each 100 pupils.
Letter Paper	11 reams to each 100 pupils.
Note Paper	2½ reams to each 100 pupils.
Composition Books	5 to each pupil.
Pens	7½ gross to each 100 pupils.
Penholders	1½ gross to each 100 pupils.
Drawing Pencils	3 to each pupil.
Common Pencils	4 to each pupil.
Rubber	3 pieces to each pupil.
Blotters	300 to each 100 pupils.

TEACHERS.

Letter Paper	2 quires to each teacher.
Note Paper	5 quires to each teacher.
Note Envelopes	4 packages to each teacher.
Pens	1 gross to each 10 teachers.
Mucilage	1 bottle to each teacher.
Blotters	1 package to each teacher.
Penholders	2 to each teacher.
Drawing Pencils	2 to each teacher.
Common Pencils	4 to each teacher.
Rubber	2 pieces to each teacher.

Each principal equivalent to two teachers.

SCHOOLS.

Ink	4 gallons to each 100 pupils.
Chalk	8 boxes to each 100 pupils.
Black-board Erasers	17 to each 100 pupils.
Recitation Cards	250 to each 100 pupils.
Mucilage	1 quart to each building.
Government Envelopes	100 to each building.

Inkstands and Racks, Record Books, Apparatus, Drawing Instruments Maps, Globes, Charts, etc., as voted by the committee.

GRAMMAR SCHOOLS.

PUPILS.

Examination Paper	2 reams to each 100 pupils.
Letter Paper	3 reams to each 100 pupils.
Note Paper	20 quires to each 100 pupils.
Composition Books	2 to each pupil.
Pens	8 gross to each 100 pupils.
Penholders	1 gross to each 100 pupils.
Drawing Pencils	2 to each pupil.
Common Pencils	2 to each pupil.
Rubber	2 pieces to each pupil.
Drawing Paper for Maps, etc.	2 reams to each 300 pupils.
Blank Books for Spelling	120 to each 100 pupils.
Blotters	2 to each pupil.
Slate Pencils	6 to each pupil.

TEACHERS.

Letter Paper	2 quires to each teacher.
Note Paper	5 quires to each teacher.
Note Envelopes	2 packages to each teacher
Penholders	2 to each teacher
Drawing Pencils	2 to each teacher.
Common Pencils	3 to each teacher
Rubber	2 pieces to each teacher.
Pens	1 gross to each 10 teachers.
Mucilage	1 bottle to each teacher.
Blotters	1 package to each teacher.

Each principal equivalent to 2 teachers.

SCHOOLS.

Ink	3 gallons to each 100 pupils.
Chalk	4 gross to each 100 pupils.
Black-board Erasers	10 to each 100 pupils
Slates	26 to each 100 pupils.
Recitation Cards	150 to each 100 pupils.
Mucilage	1 quart to each building.
Government Envelopes	100 to each building

Inkstands and Racks, Record Books, Apparatus, Drawing Instruments, Maps, Globes, Charts, etc., as voted by the committee.

COMPARATIVE STATEMENT OF EXPENDITURES FOR ELEVEN YEARS.

Year.	Amounts.		Average No. of Pupils.	Average Cost per Pupil.
1876–77	$178,940 87			
Less repaid to city	777 46			
	$178,163 41		50,308	$3 54
1877–78	$164,795 78			
Less repaid to city	793 62			
	$164,002 16		51,759	3 17
1878–79	$159,428 97			
Less repaid to city	406 35			
	$159,022 62		53,262	2 99
1879–80	$179,998 99			
Less repaid to city	25,835 75			
	$154,163 24		53,981	2 86
1880–81	$170,910 95			
Less repaid to city	47,864 40			
	$123,046 55		54,712	2 25
1881–82	$146,171 02			
Less repaid to city	43,789 57			
	$102,381 50		55,638	1 84
1882–83	$151,791 02			
Less repaid to city	44,069 60			
	$107,721 42		57,554	1 87
1883–84	$161,987 58			
Less repaid to city	48,952 44			
	$113,035 14		58,788	1 92
1884–85	$188,154 07			
Less repaid to city	8,704 69			
	$179,449 38		59,706	3 01
1885–86	$146,321 82			
Less repaid to city	375 99			
	$145,945 83		61,259	2 38
1886–87	$124,591 72			
Less repaid to city	271 51			
	$124,320 21		62,259	2 00

SCHOOL DOCUMENT NO. 6—1887.

EXPENDITURES FOR THE PUBLIC SCHOOLS.

REPORT

OF THE

COMMITTEE ON ACCOUNTS.

BOSTON:
ROCKWELL AND CHURCHILL, CITY PRINTERS.
No. 39 ARCH STREET.
1887.

In School Committee,

Boston, May 24, 1887.

Ordered, That the Committee on Accounts be authorized to report in print, and that seven hundred and fifty copies of the report be printed.

Attest:

PHINEAS BATES,

Secretary.

REPORT.

Boston, June 1, 1887.

The Committee on Accounts herewith submit their nineteenth annual report, for the financial year commencing May 1, 1886, and ending April 30, 1887, in accordance with the Rules of the School Board.

By Section 42 of the Rules the Auditing Clerk is required to submit an account of the expenditures in detail at the close of each financial year. This statement of expenditures has been received, and is included in this report.

As the cost for educating each scholar includes not only the expenditures incurred by the School Committee, but also the expenditures made under the direction of the Public Building Department for the repairs of the various school-buildings, and keeping good the furniture in the same, it is necessary to include in this report such expenditures, in order that the total running expenses of the schools can be shown, and the cost per scholar computed.

This committee, under date of Feb. 9, 1886, presented to the Board the estimated amount required to carry on the public schools, exclusive of the sum to be expended by the Public Building and City Architect's Departments for furniture, repairs, alterations, and the building of new school-houses.

The estimates, which received the unanimous approval of the School Board and were transmitted to the City Auditor, were as follows: —

Salaries of instructors	$1,219,358
Salaries of officers	59,060
School expenses	250,700
	$1,529,118

The City Council reduced the estimates $45,118, and granted the following: —

Salaries of instructors	$1,200,000
Salaries of officers	59,000
School expenses	225,000
	$1,484,000

This was the first reduction made by the City Council in the estimates of the School Committee since 1881–82.

Immediately after the passage of the appropriation bill the Mayor, in an official communication to the Chairman of the School Committee, stated that the appropriation for the various departments of the city had been decided upon, and quoted from the new city charter, which says, "No expenditure shall be made, nor liability incurred, for any purpose beyond the appropriation duly made therefor."

At a meeting of the School Board held May 11, 1886, the following order was offered and adopted: —

Ordered, That the Committee on Accounts be instructed to consider and report as to the reductions in expenditures for the present year which can be made with the least detriment to the schools, to conform to the appropriations granted for school purposes by the City Council.

This committee, after a careful consideration of the subject, presented a report to the Board, under date of May 25, 1886, containing the following recommendations: —

1. It is recommended that the Committee on High Schools, and the committees in charge of the several divisions, in the matter of the selection of teachers during the present year, confine themselves to such candidates as are willing to serve on the minimum salary allowed for the position to be filled; and that no increase of years of service be recommended for teachers now employed.

2. It is recommended that no general increase of salaries of janitors be made during the year.

3. It is recommended that the Committee on Manual Training be

limited in their expenditures during the year to the extent of twenty-five hundred dollars.

4. It is recommended that the committees in charge of the Evening Schools and the Evening Drawing Schools reduce, as far as practicable, the expenses of these schools throughout the year.

5. It is recommended that the Committee on Salaries, in fixing the salaries for the present year, consider the advisability of reporting the salaries in such a manner that, in case the appropriation is not sufficient to carry on the schools, a reduction of ten per cent. can be made in the salaries due for the month of March, 1887, of all instructors and officers employed by the School Board during said month.

In addition to these recommendations the following circular was sent to principals of High and Grammar schools: —

MASON STREET, BOSTON, May 17, 1886.

To Principals of High and Grammar Schools: —

GENTLEMEN: — The City Council have reduced the estimated amount for 1886–87, requested by the School Committee, $45,118.00, and have directed the School Committee to limit their expenditures to the amount appropriated.

The School Committee have ordered the Committee on Accounts to consider and report wherein the expenses can be reduced to conform to the amount granted; and this committee, after consideration of the subject, are of the opinion that, by exercising the utmost economy during the year, it is possible to keep the expenses within the appropriation, without interfering with the present schedule of salaries.

The coöperation of all the instructors will be required to accomplish this; and it is desired that, in your requests for supplies throughout the year, you will ask only for what is absolutely required.

Please endeavor to make the text-books last as long as possible before replacing them; and see that the janitors exercise proper economy in the use of fuel, gas, and water.

Should vacancies occur among the teachers in your school or district please bear in mind the reduced appropriation when making recommendations for filling the vacancies.

Yours truly,

WILLIAM C. WILLIAMSON,
Chairman Committee on Accounts.

These recommendations to the Board and to the several principals, which were generally complied with, and certain

unforeseen circumstances, enabled the School Board to carry on the schools within the appropriation granted, without the reduction of a single salary.

The unusual reduction made by the City Council in the appropriation of the past year for school purposes was undoubtedly caused by the law recently passed limiting taxation.

The total amount requested according to the estimates of the different departments of the city was greater than the amount that could be legally raised by taxation; and the result was that the schools suffered a decrease with the other departments.

When the facts are presented that the cost of educating a scholar has been reduced from $36.54, in 1874–75, to $25.94, in 1886–87, — a reduction of nearly thirty per cent. in twelve years, — and that at no time for the past twenty years has it cost Boston less for educating a pupil than during the past year, notwithstanding the additional burden of furnishing free text-books lately imposed, it does not seem that the appropriation could have been cut down on the ground of extravagance.

What effect, if any, the law limiting taxation will have upon school expenses is yet to be determined; but it is hoped that the City Council will in future grant a fair amount for school purposes so as to prevent the necessity of raising the question.

The School Committee of Boston is created by the State, and elected by the people to carry out the statutes of the Commonwealth made for the government of the public schools; and, although the authority to expend money is derived from the State, the School Board is always ready to curtail expenses as much as possible to conform to the appropriations granted them by the City Council.

The expenditures made by direction of the School Committee and the Public Building Department the past year were as follows: —

School Committee.

Salaries of instructors		$1,213,806 24
Salaries of officers		55,739 67
School expenses: —		
Salaries of janitors	$89,802 95	
Fuel, gas, and water	57,387 05	
Books	34,018 82	
Printing	4,620 81	
Stationery and postage	6,827 19	
Miscellaneous items	21,737 85	
		214,394 67
Expended from the appropriation		$1,483,940 58
Expended from income of Gibson Fund		1,402 71
Total expenditure		$1,485,343 29
Total income		33,388 28
Net expenditure, School Committee		$1,451,955 01

Public Building Department.

Furniture, masonry, carpentry, roofing, heating-apparatus, etc.	$163,111 38	
Income	295 92	
Net expenditure, Public Building Department		162,815 46
Total net expenditure for the year (exclusive of new school-houses)		$1,614,770 47

Your committee, in preparing the estimates, stated that the probable income would be as follows: —

Non-residents, State and City	$13,000 00
Trust-funds and other sources	13,000 00
Total estimated income	$26,000 00

The income collected was as follows: —

Non-residents, State and City,	$14,594 02	
Trust-funds and other sources,	18,522 75	
Sale of books . . .	101 13	
Rebate, Boston Gas-Light Co.	170 38	
Total income		$33,388 28

The expenses of the School Committee, as compared with those of the year previous, present a decrease of $2,068.85. The expenses incurred by the Public Building Department for furniture, repairs, etc., of school-houses, were decreased $25,482.67, thereby decreasing the net expenditure of both departments to the amount of $27,551.52.

The average number of pupils belonging to all the schools was 62,259. The average cost per pupil incurred by the School Committee was $23.32; by the Public Building Department, $2.62, — making the total average cost per pupil $25.94.

In the table of school expenses prepared by the City Auditor, which appears on page 31 of this report, we find the cost for educating each pupil for the past twenty years to have been as follows: —

1867–68 . .	$27 24	1874–75 . .	$36 54	1881–82 . .	$26 98
1868–69 . .	28 64	1875–76 . .	34 82	1882–83 . .	26 58
1869–70 . .	27 45	1876–77 . .	33 18	1883–84 . .	26 54
1870–71 . .	30 14	1877–78 . .	29 99	1884–85 . .	27 90
1871–72 . .	28 47	1878–79 . .	27 93	1885–86 . .	26 81
1872–73 . .	33 50	1879–80 . .	27 16	1886–87 . .	25 94
1873–74 . .	32 14	1880–81 . .	27 15		

The above statement shows that the cost per pupil the past year was less than in any year enumerated, — a period of twenty years.

In the latter part of this report the cost of each grade of schools is given, which includes only such expenses as are directly chargeable to that particular grade. General ex-

penses amounting to $94,628.80, have been incurred, and income amounting to $18,522.75 has been received on account of the schools as a whole. Charging each grade with a fair proportion of such expenses, and crediting the income in the same manner, we find the total cost for carrying on each of the several grades of schools to be as follows: —

NORMAL, LATIN, AND HIGH SCHOOLS.

Salaries of instructors		$171,274 96
Salaries of janitors		10,751 00
Books, drawing materials, and stationery		7,914 60
Other supplies and miscellaneous items		1,668 51
Fuel, gas, and water		7,558 70
Proportion of general expenses		13,571 37
Total cost, School Committee		$212,739 14
Income from sale of books	$35 24	
Proportion of general income	2,656 48	
		2,691 72
Net cost, School Committee		$210,047 42
Proportion of net expenses, Public Building Department		14,015 15
Total net cost		$224,062 57

Average number of pupils, 2,944; cost per pupil, $76 11.	
Cost for educating 2,944 pupils	$224,062 57
Tuition paid by 83 non-resident pupils	6,987 49
Net cost for educating 2,861 resident pupils	$217,075 0
Average cost for each resident pupil	$75 87

GRAMMAR SCHOOLS.

Salaries of instructors		$651,133 15
Salaries of janitors		43,960 10
Books, drawing materials, and stationery		29,983 17
Other supplies and miscellaneous items		3,144 48
Fuel, gas, and water		26,853 45
Proportion of general expenses		51,451 06
Total cost, School Committee		$806,525 41
Income from sale of books	$37 50	
Income from non-resident tuition	778 10	
Rebate, Boston Gas-Light Co.	170 38	
Proportion of general income	10,071 09	
		11,057 07
Net cost, School Committee		$795,468 34
Net expenses, Public Building Department		74,506 41
Total net cost		$869,974 75

Average number of pupils, 30,689; average cost per pupil, $28 35.

PRIMARY SCHOOLS.

Salaries of instructors		$325,108 20
Salaries of janitors		32,955 59
Books, drawing materials, and stationery		4,307 41
Other supplies and miscellaneous items		2,306 33
Fuel, gas, and water		19,000 88
Proportion of general expenses		26,144 00
Total cost, School Committee		$409,822 41
Income from sale of books	$20 18	
Income from non-resident tuition	19 34	
Proportion of general income	5,117 46	
		5,156 98
Net cost, School Committee		$404,665 43
Net expenses, Public Building Department		70,616 88
Total net cost		$475,282 31

Average number of pupils, 24,540; average cost per pupil, $19 37.

HORACE MANN SCHOOL.

Salaries of instructors		$8,151 93
Salary of janitor		396 00
Books, drawing materials, and stationery		44 18
Other supplies and miscellaneous items		19 25
Fuel, gas, and water		201 50
Proportion of general expenses		600 51
Total cost, School Committee		$9,413 37
Proportion of general income		117 54
		$9,295 83
Net expenses, Public Building Department		262 36
		$9,558 19

Average number of pupils, 75; cost per pupil, $127 44.

Total cost for educating 75 pupils	$9,558 19
Received from the State, etc., for tuition	6,743 90
Net cost for educating 75 pupils	$2,814 29
Net average cost for each pupil	$37 52

EVENING HIGH AND ELEMENTARY SCHOOLS.

Salaries of instructors		$26,261 00
Salaries of janitors		1,479 13
Books and stationery		891 81
Other supplies and miscellaneous items		54 81
Fuel, gas, and water		2,368 32
Proportion of general expenses		2,116 11
Total cost, School Committee		$33,171 18
Income from sale of books	$8 21	
Income from non-resident tuition	10 59	
Proportion of general income	414 21	
		433 01
Net cost, School Committee		$32,738 17
Net expenses, Public Building Department		1,376 63
Total net cost		$34,114 80

Average number of pupils, 3,423; average cost per pupil, $9 97.

EVENING DRAWING SCHOOLS.

Salaries of instructors		$9,069 00
Salaries of janitors		261 13
Drawing materials and stationery		632 43
Other supplies and miscellaneous items		10 98
Fuel, gas, and water		970 79
Proportion of general expenses		745 75
Total cost, School Committee		$11,690 08
Income from non-resident tuition	$54 60	
Proportion of general income	145 97	
		200 57
Net cost, School Committee		$11,489 51
Net expenses, Public Building Department		1 461 11
Total net cost		$12,950 62

Average number of pupils 570; average cost per pupil, $22 72.

In addition to the foregoing schools, a school for instruction in carpentry has been in operation, during the year, in the Latin School building; and in December last a school for instruction in cookery was opened in the Drake schoolhouse, South Boston. The expenses of the School Committee for carrying on these schools in manual training amounted to $1,982.39. In addition the Public Building Department expended [1] $576.92,—making a total expense to the city for these schools, of $2,559.31 for the year. The pupils attending these schools came from and were counted as belonging to the other grades of schools.

The average number of pupils belonging to all of the schools increased just 1,000 over that of the previous year. Of this number the High Schools show an increase of 158, the Grammar Schools 593, the Primary Schools 336,—an increase of 1,087 in the regular grades; while the number attending the Special and Evening Schools shows a falling off of 87 pupils.

The number of regular instructors on the pay-rolls April 1, 1886, was 1,192. During the year 71 resigned, 2 were

[1] Including $20.51 of the expenses incurred for no particular school.

discontinued, and 4 died. Of the 73 instructors, who resigned and were discontinued, 26 were appointed to higher positions, making the actual reduction 51, and leaving 1,141 of the original number. During the year there were, in addition, 72 new appointments, making the total of regular instructors, April 1, 1887, 1,213, — an increase of 21 for the year. In addition there have been 78 temporary teachers and 47 special assistants employed in the day schools; an average of 138 instructors in the Evening and Evening Drawing Schools and 45 special teachers, — making a total of 1,521 instructors on the pay-rolls during the year.

The following table shows the expenditures made by the School Committee, the number of pupils, and the average cost per pupil, as incurred by them since the re-organization of the Board, — a period of eleven years.

Year.	Expenditures.	Income.	Net Expenditures.	No. of pupils.	Rate per pupil.
1876-77 . .	$1,525,199 73	$21,999 03	$1,503,200 70	50,303	$29 88
1877-78 . .	1,455,687 74	30,109 31	1,425,578 43	51,759	27 54
1878-79 . .	1,405,647 60	32,145 54	1,373,502 06	53,262	25 79
1879-80 . .	1,416,852 00	49,090 28	1,367,761 72	53,951	25 34
1880-81 . .	1,413,763 96	73,871 08	1,339,892 88	54,712	24 49
1881-82 . .	1,392,970 19	69,344 08	1,323,626 11	55,635	23 79
1882-83 . .	1,413,811 66	73,278 56	1,340,533 10	57,554	23 29
1883-84 . .	1,452,854 38	79,064 66	1,373,789 72	58,788	23 37
1884-85 . .	1,507,394 03	39,048 26	1,468,345 77	59,706	24 59
1885-86 . .	1,485,237 20	31,213 34	1,454,023 86	61,259	23 74
1886-87 . .	1,485,343 29	33,388 28	1,451,955 01	62,259	23 32

It will be seen from the above table that the expenses of the School Committee the past year were 42 cents less per pupil than for the previous year.

The amount paid for salaries of instructors the past year was $1,213,806,24, — an increase as compared with that of the previous year of $21,312.95.

With the additional instructors required each year, and the present scale of salaries, the annual increase in this item has been nearly $23,000, or about two per cent. for the past five years.

This increase keeps pace with the increase in the number of pupils, which averages nearly the same percentage annually, and requires the appointment of about twenty additional teachers each year.

The following information was returned by the principals with the monthly pay-rolls: —

Number of days teachers were absent . . .	8,713
Number of days substitutes were employed . .	8,124
Number of days teachers were absent without employing substitutes	589

The amount of money paid by the city to teachers for services not rendered during the year, as reported by the principals, was $1,754.17, which was much less, on an average, than one-half day's pay to each teacher in the service.

The principals, at a meeting held last January, requested the opinion of the Committee on Accounts as to what should be the salary of a substitute on one-session days; and, in response, the following circular was sent to them: —

MASON STREET, Jan. 21, 1887.

The following vote is sent to the principals of Grammar Schools for their guidance concerning the payment of substitutes: —

Voted, That, in the opinion of the Committee on Accounts, a substitute employed to take the place of an absent teacher should receive, in case of a one-session day during said employment, a full day's payment for said one-session day; except that, when a Primary School teacher, having a proper excuse, notifies the principal that she wishes to be away for a morning session only, intending to return in the afternoon, and the day proves to be a one-session day, said Primary School teacher should pay the substitute only a half-day's compensation.

WM. C. WILLIAMSON,

Chairman Committee on Accounts.

During the year $45,085.21 were paid for instruction by special teachers, as follows: Sewing, 29 teachers, in 214 divisions, $15,372; Music, 5 teachers, $13,200; Drawing, 1 teacher, $3,000; Modern Languages (to September 1, 1886): French, 4 teachers, $1,837.50; German, 1 teacher, $450; Modern Languages (from September 1, 1886): Director, $1,708.33; 2 assistants, $1,166.66; Hygiene, 1 teacher, $3,000; Calisthenics and Elocution, 2 teachers, $1,452; Military Drill, 1 teacher and 1 armorer, $2,160; Manual Training, 1 teacher of carpentry. $1.200; 1 teacher of Boston School Kitchen No. 2, $248 (service commenced December 1, 1886); school on Spectacle Island, 1 teacher, $290.72.

The number of special assistants employed during the year, under Section 217 of the Regulations, to assist teachers of the lowest Primary classes, was 46, and the salaries paid the same amounted to $3,020. In addition, a special assistant was allowed, by action of the Board, for service in an outlying school, and the amount paid her was $194.

The number of temporary teachers employed during the year was 78, and the amount paid them was $8,868.19, of which $1,721.05 were expended for services in the High Schools; $4,078.14 in the Grammar Schools; and $3,069 in the Primary Schools.

Fourteen Evening Elementary Schools were opened during the year, of which number twelve continued the full term of twenty-two weeks. The Allston Evening School closed after being open nine weeks. The Sherwin Evening School was opened for the first time November 1, and continued until the end of the term, being in session seventeen weeks. This school was established to supply a long-felt want in that neighborhood, — the teaching of English to German pupils.

The cost for salaries of teachers in the Elementary Schools the past year was $17,645, as compared with $17.952, for the year previous.

The Evening High School occupied rooms in the Latin and English High School house and continued in session twenty-two weeks, — the full time allowed by the Rules. The salaries of instructors amounted to $8,616, as compared with $11,808.34, the cost the previous year.

Five Evening Drawing Schools were opened October 18, and continued in session three evenings per week for twenty-two weeks. The instructors comprised two masters, four head assistants, and seventeen assistants. In addition five curators were employed to look after the instruments and supplies furnished to the schools, and to render clerical assistance. The salaries paid for the term amounted to $9,069, as compared with $8.273 the previous year.

The amount paid for salaries of officers the past year was $55,739.67, — a decrease, as compared with the previous year, of $3,170.33. A vacancy in the Board of Supervisors for about six months, and a vacancy in the corps of Truant-Officers for a longer period, accounts for this decrease.

Previous to the re-organization of the School Committee in 1876, the appointment of janitors and their entire control were in the hands of the Committee on Public Buildings of the City Council.

The legislation of 1875 committed the care of this large body of employés to the School Board, who, after careful consideration, adopted rules transferring the charge of the janitors to the Committee on Accounts, said committee having paid employés of the Board under their direction, who could assist in doing the additional work devolving upon the department.

While the janitors were under the charge of the City Council they received a certain salary for the care of the building, and additional amounts during the year for clearing snow and cleaning windows. In many cases, in extremely cold weather, janitors were obliged to stay all night in their

buildings, for which service they received extra compensation. Since the janitors were placed in charge of this committee the method of payment has been changed, and a janitor placed in charge of a building is required to do all the work formerly done, for a fixed monthly salary, said salary being in full for all services. Although this has been the general rule, exceptions have been made in certain instances, whereby exceptional services have received proper compensation.

The number of janitors employed the past year to take charge of the various school-houses was one hundred and fifty-eight, including one engineer. The salaries paid amounted to $89,802.95, — an increase, as compared with the previous year, of $3,201.57. The number of buildings occupied, wholly or in part, for school purposes was one hundred and seventy-nine. Of this number, six buildings were in charge of two janitors, forty-two buildings were in charge of twenty-one janitors, and one hundred and thirty-five janitors had charge of one hundred and thirty-one buildings.

The average cost for taking care of the eight buildings occupied for High Schools the past year was . . .	$1,343 87
The average cost for each of the fifty-five buildings occupied for Grammar Schools was	799 27
The average cost for each of the one hundred and thirteen buildings occupied for Primary Schools was . .	291 64
The average cost for each Evening School was . . .	87 01
The average salary paid to each janitor in the service was	568 37

The salaries paid the past year did not average much more than was paid ten years ago, while, in other departments of the City Government, salaries of similar classes of workmen have been more largely increased.

The Committee on Accounts voted, a year ago, to increase janitors' salaries $4,500; but the appropriation granted by the City Council was not sufficient to warrant the carrying

out of the vote. While the lives and comfort of so many persons depend to some extent upon the skill and faithfulness of the janitors, a reasonable compensation should be offered, so as to command the services of competent persons, particularly in such buildings as are heated by steam.

The duties of a janitor, especially in a large school-house, are quite responsible, requiring hard work and constant watchfulness in the discharge of his work.

The committee have voted to carry into effect the vote of last year, and have increased the salaries of janitors on an average about five per cent., the increase to take effect from April 21. They have given much time to a fair division of the amount agreed upon; and, although some janitors will not receive any increase, others will be allowed an addition of more than ten per cent. From the action taken it is hoped that, in future, the salaries will be better equalized in proportion to the work required than they have been in the past.

During the past year some thirty janitors, out of the entire force of one hundred and fifty-eight, expressed a wish to have their salaries paid weekly. It was thought that, under the law, the city would be obliged to make such payments when demanded; and, as it would not be practicable to pay some janitors weekly and others monthly, your committee, in their estimates, asked for additional money for this purpose, with the intention of complying with the demand. But, owing to the fact that the total appropriation requested was not granted, and that a large majority of the janitors preferred that monthly payments be continued, your committee did not feel justified in making the change, at the risk of exceeding the appropriation, unless they were obliged to do so by law. To aid them in the matter the opinion of the Corporation Counsel was requested, with what result can be seen by the following correspondence: —

OFFICE OF COMMITTEE ON ACCOUNTS,
MASON STREET, BOSTON, May 3, 1887.

Hon. E. P. NETTLETON, *Corporation Counsel:* —

DEAR SIR, — For the information and guidance of the Committee on Accounts of the School Committee, I respectfully request your opinion on the following question: —

Do the provisions of Chapter 87 of the Acts of 1886 require weekly payments to be made to the janitors employed by the School Committee, said janitors, when elected, having had their salaries fixed at a certain sum per month?

Yours very truly,
WM. C. WILLIAMSON,
Chairman Committee on Accounts.

CORPORATION COUNSEL'S OFFICE,
2 PEMBERTON SQUARE, BOSTON, May 3, 1887.

WILLIAM C. WILLIAMSON, Esq., *Chairman Committee on Accounts:* —

DEAR SIR, — In answer to your letter of to-day, I am of opinion that the provisions of Chapter 87 of the Acts of 1886 do not require weekly payments to be made to the janitors employed by the School Committee upon the terms stated by you. The act does not apply to officers or agents, or others whose compensation is, by the terms of their employment, fixed with reference to periods of more than a week.

Very respectfully,
E. P. NETTLETON,
Corporation Counsel.

From this opinion it will be seen that it is optional with the School Committee to pay weekly salaries; and your committee have concluded to defer further consideration of the subject, at least until such time as it can be shown that a majority of the parties interested prefer a change in the present method of payment.

At a meeting of this committee, held May 16, it was voted that the pay-rolls of janitors be made up to the first of the month instead of the twentieth. This will have the effect of increasing expenses the present year about $2,600, as by this change the janitors will receive from the appropriation for this financial year salaries for twelve and one-third months.

The committee included in their estimates for this year, $4,000 as an amount that might answer for experiment the first year in clearing the snow from the school-house yards. This is the first time that money has been requested by the School Committee for this purpose; and it is not probable that the appropriation granted will permit much work of this kind to be done. If the School Committee fail to do their duty, in this particular, "shortness of funds" will be the cause.

Bills were received from the Committee on Supplies during the year, and approved by this committee, to the amount of $124,591.72, which represented the total expenditure for the year, exclusive of salaries. The income amounted to $271.51, which, deducted from the gross expenditure, leaves the sum of $124,320.21 as the net amount expended for items under the direction of the Committee on Supplies.

From the report of that committee, recently issued, it appears that the working of the free text-book law is progressing very satisfactorily, and only adds thus far about 64 cents to the yearly cost for educating each pupil.

In 1884, when the law went into effect, we find that the number of pupils attending the High Schools was 2,395. In 1887 the number is 2,944, — an increase of 549, or about 23 per cent. in three years.

The increase in the number of pupils in the three upper classes of the Grammar Schools during the past three years was about 40 per cent. greater than the increase in the three lower classes, although the proportion of pupils in the former, as compared with the latter, is less than 60 per cent.

The free text-book act has undoubtedly been a large factor in filling up our High Schools and the upper classes of the Grammar Schools, on account of the expense saved to parents by relieving them from the purchase of text-books, which, in these grades, requires quite a large sum.

This increase in the upper grades not only adds to the cost to the city for books, which is a minor expense, but adds considerably to the cost for instruction, as the teachers thus employed generally receive the larger salaries.

Two of the advantages thus far developed by the use of free text-books, are, first, avoiding delay in getting the schools into working order, and, second, in prolonging the school-life of children.

The amount collected during the year for the tuition of non-resident pupils was $7,850.12, — an increase, as compared with the previous year, of $215.83.

The rates of tuition for each pupil were as follows: Normal, Latin, and High Schools, $84.26; Grammar Schools, $29.52; Primary Schools, $19.34.

These charges were the cost per pupil incurred by the city for the different grades in 1885-86, — the preceding year.

The number of pupils who paid tuition was 113. Of this number 11 attended the Normal School, 32 the Latin School, 9 the Girls' Latin School, 19 the English High School, 12 the Girls' High School, 25 the Grammar Schools, 1 a Primary School, 1 the Evening High School, and 3 the Evening Drawing Schools.

This committee gave much time during the year to the investigation of a large number of cases reported by the principals as probable non-residents, who desired to be relieved from the payment of tuition. Some of these pupils were found to have the right to attend school, and many others presented reasons such as justified your committee in voting to excuse them from payment of tuition.

The State of Massachusetts paid to the city $6,435.55, and sundry other parties paid $308.35, — a total of $6,743.90, — for the tuition of pupils in the Horace Mann School for the Deaf.

In the report of this committee for last year the hope was expressed that a change would be made in the law, or the construction placed upon it, regarding deaf-mute pupils, thereby relieving parents from being compelled to sign a certificate stating that they were unable to meet the cost of tuition, before the State would undertake their education; and through the earnest efforts of parties interested in deaf-mutes, the following law was lately placed upon the statute-book: —

CHAPTER 179.

AN ACT TO PROVIDE FOR THE FREE INSTRUCTION OF DEAF-MUTES OR DEAF CHILDREN.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows: —

SECTION 1. With the approval of the Board of Education the governor may send such deaf-mutes or deaf children as he may deem fit subjects for education, for a term not exceeding ten years in the case of any pupil, to the American Asylum, at Hartford, the Clarke Institution for Deaf-Mutes, at Northampton, or to the Horace Mann School, at Boston, or to any other school for deaf-mutes in the Commonwealth, as the parents or guardians may prefer; and, with the approval of the Board, he may make, at the expense of the Commonwealth, such provision for the care and education of children, who are both deaf-mutes and blind, as he may deem expedient. In the exercise of the discretionary power conferred by this act no distinction shall be made on account of the wealth or poverty of parents or guardians of such children; no such pupil shall be withdrawn from such institution or school, except with the consent of the proper authorities thereof or of the governor, and the sums necessary for the instruction and support of such pupils in such institution or school shall be paid by the Commonwealth; *provided, nevertheless*, that nothing herein contained shall be held to prevent the voluntary payment of the whole or any part of such sums by the parents or guardians of said pupils.

SECT. 2. Section 16 of Chapter 41 of the public statutes and chapter 241 of the acts of the year 1886 are hereby repealed.

SECT. 3. This act shall take effect upon its passage.

Approved April 14, 1887.

The effect of the passage of this law will be to place deaf-

mute children on a par with other children, by furnishing them an education at the public expense.

For the past ten years about three-fourths of the expense of the Horace Mann School has been borne by the State, the city assuming the remaining fourth. The law just passed says that the sums necessary for the instruction and support of such pupils shall be paid by the Commonwealth, unless the parent volunteers the payment. It would seem, therefore, as if the State now assumes the entire expense of this school; and if this assumption be correct, and the School Committee is permitted to manage the school while the State pays the bills, the result will be a saving to the city of some $2,000 yearly, which has been about the average cost to the School Board above what the State has paid.

Since the year 1674, fourteen school trust-funds have been bequeathed to the city, for aiding in carrying out certain specified objects, by individuals interested in the public schools.

The principal and unexpended income of these funds amount, at the present time, to about $65,000, which is divided as follows: —

Gibson School Fund. — A bequest of Christopher Gibson, in 1674, "for the use of the schools of learning in the town of Dorchester." At the present time the fund amounts to $18,925.79, which is principally invested in city of Boston bonds. In addition there is, belonging to this fund, 537,700 feet of land remaining unsold in Dorchester. The income of the Gibson fund at the present time is about $1,000 per annum, which is apportioned each year among the schools in Dorchester by the Ninth Division Committee; and the principals, with the approval of the Superintendent of Schools, make requisition on the Committee of Accounts for what they desire.

Charlestown School Trust-Fund. — This fund dates back to April 4, 1671, when Deputy-Governor Willoughby bequeathed three hundred acres of land for school purposes. October 5, 1703, Capt. Richard Sprague bequeathed the sum of £50, the interest of which was

to be used for the Free Schools in Charlestown. In 1745 Mr. Isaac Royal gave £80 to the "school at the neck." The above-named bequests were invested in various ways; and, at a town meeting, held in December, 1792, a report was made giving a full statement of the funds, and recommending that they be paid over to certain persons appointed by the town, and be applied solely to the support of the schools. In 1793 seven trustees were appointed to manage these funds; and trustees were appointed annually thereafter, until annexation took place. In addition to previous bequests Thomas Miller bequeathed $100 to the trustees in December, 1832; and in 1836 Miss Catherine Brown bequeathed $100.

It seems that this fund at the present time would have been much larger had it not been diverted from its proper use. The deficiency is explained in part by the fact that the trustees, in addition to managing the income from their invested funds, had also, for a long time, the disposal of the annual town appropriations for school purposes; and a confusion thus arose in regard to the disbursements, so that the permanent fund was at times encroached upon in the building and furnishing of school-houses, etc., when such expenditures should have been made exclusively from the appropriations by the town.

By an Act approved March 13, 1877, the School Committee were incorporated, and authorized to receive said fund, manage it, and disburse the income within the limits of the former city of Charlestown, according to the tenor of the instruments creating said trust.

Annually the School Committee elects a treasurer, who holds in trust the property of this fund. The Committee on Accounts, the President, the Secretary, and the Treasurer form the corporation, selected by the School Committee to manage the trust. The principal and accumulated income of this fund amounts to about $8,000 at the present time. Materials to the extent of about $400 per annum, requested by the principals in Charlestown, are purchased each year, and charged on account of the income.

Comins School Library Fund. — Donation of Linus B. Comins, the interest of which is to be expended upon the library of the "Comins Grammar School for Girls," and to be held in trust by the Chairman of the School Committee, the Mayor of the city, and the President of the Common Council, who are constituted, *ex officiis*, Trustees of the Fund,

Invested in one certificate of Boston five per cent. stock .	$500 00

The above named trustees sign orders authorizing the master of the Comins School to collect the income. It is expended by the master under the direction of the Seventh Division Committee. The income

has not been collected since April 1, 1885; and the amount now available is $85.50. The principal of the fund is held by the City Treasurer.

DEVENS INFANT-SCHOOL FUND. — Bequest of David Devens, who died August 30, 1855, for the benefit of the infant schools in Charlestown, and children who attend them. Accepted by the City of Charlestown, Nov. 10, 1856.

Invested in one Cochituate Water four per cent. bond, due April 1, 1915, payable to the Mayor of the city and his successors, as trustees of said legacy $1,000 00

The interest on this fund is collected by the Mayor. The income uncollected at the present time is $40. Principal of the fund is held by the City Treasurer.

JOHN H. EASTBURN LEGACY. — This is a bequest from the late John H. Eastburn, and received from the executors of his estate in April, 1886.

The following clause from his will explains the purpose of the bequest:—

"The interest to be applied to aid and assist deserving and poor scholars to finish their education, by pecuniary assistance, in the Normal School for females."

Invested in City of Boston four per cent. stock . . . $10,000 00

The income due since the date of investment amounts to $353.33. The School Board have referred to the Normal School Committee the duty of reporting to them such rules as in their judgment will be proper for managing this trust. The City Treasurer holds the principal of this fund, and will pay the income in such manner as the School Board may direct.

FRANKLIN SCHOOL MEDAL FUND. — This is a legacy by Benjamin Franklin, in 1791, the interest on which, since 1792, has been invested in silver medals, which are now distributed, at the annual examination, among the most deserving boys in the ENGLISH HIGH AND LATIN SCHOOLS.

Invested in one certificate of City of Boston five per cent. stock, due 1900 . . . . . $1,000 00

The principal is held by the City Treasurer. The income is collected by him, and expended for the purpose above mentioned. The income on hand at this date is $131.19, which is deposited in the National Globe Bank.

Latin School Prize Fund. — This is a donation from a number of gentlemen of Boston, in the year 1819, the interest of which is invested in prizes, which are annually distributed among the most deserving scholars in the Public Latin School.

Invested in one certificate of City of Boston six per cent. stock	$1,050 00

The City Treasurer holds the principal of this fund, and pays the income to the head-master of the Latin School. The income uncollected at date amounts to $31.50.

Lawrence High School Fund, — This is a donation made by the late Abbott Lawrence, of Boston, in the year 1844, the interest of which is payable annually to the Sub-Committee of the English High School, for the time being, and is by them distributed in prizes for the best performances in various branches of literature and science in that institution, and in such other rewards to the scholars in that school as the committee shall recommend.

Invested in one certificate of City of Boston six per cent. stock	$2,000 00

The City Treasurer holds the principal of this fund. The income is collected by the head-master of the English High School, who expends it under the direction of the High School Committee. The income available at date amounts to $60.

Lawrence Latin School Fund. — This is a donation made by the late Abbott Lawrence, in the year 1845, the interest on which is payable annually to the "Chairman of the Sub-Committee of the Public Latin School, for the time being," and is distributed in prizes for the general encouragement of the scholars in such a way as the subcommittee of that school shall consider advisable.

Invested in one certificate of City of Boston six per cent. stock	$2,000 00

The principal of this fund is held by the City Treasurer. The income is expended by the head-master of the school, under the direction of the High School Committee. The income uncollected at date is $60.

Norcross School Library Fund. — Donation and bequest of Otis Norcross. The income from this fund is to be paid to the master of the "Norcross School," to be expended in books for a library for the first class of said school. Invested in

One certificate of City of Boston five per cent. stock . .	$500 00
One certificate of City of Boston four per cent. stock . .	500 00
	$1,000 00

The City Treasurer holds the principal of this fund. The income is collected by the master of the school, and expended under the direction of the Sixth Division Committee. The income uncollected at this date is $67.50.

Milmore Brimmer School Fund. — Bequest of Martin Milmore, the income from which to aid in clothing the poor children of the Brimmer School.

Invested in one certificate of City of Boston four per cent. stock	$500 00

The interest of this fund has been paid up to date to the master who collects it on an order from the Mayor, the principal being held by the City Treasurer.

Smith Fund. — This was a legacy of Abiel Smith, of Boston, who died in 1817, to the Selectmen of the Town of Boston, for the time being.

The income from the fund is appropriated towards the expense of "the Free Instruction of Colored Children, in Reading, Writing, and Arithmetic."

The principal of this fund, invested principally in the City of Boston bonds and Boston and Providence Railroad stock, amounts to $8,600. It is held by the City Treasurer, who collects the income and pays it to the City Collector, who places it to the credit of the appropriation for school instructors. Inasmuch as the city provides free instruction for colored children in reading, writing, and arithmetic, the fund is not needed for the purposes mentioned; and the schools derive no direct benefit from Mr. Smith's legacy.

Stoughton School Fund. — This a bequest of Gov. William Stoughton, who died at Dorchester, July 7, 1701, and gave to the schools of Dorchester one hundred and fifty pounds, "for the advancement of the salary of a schoolmaster."

The terms of this bequest were complied with by the authorities of the town of Dorchester. This fund was received from the Treasurer of the town of Dorchester, by the terms of the act of annexation of said town to Boston, and stands as follows: —

Invested in one certificate of City of Boston four per cent. stock, payable in April, 1915	$5,300 00

The principal of this fund is held by the City Treasurer, who also collects the income, and pays it each year to the City Collector. It is passed by him to the credit of school instructors. This fund, like the "Smith Fund," confers upon the schools no direct benefit.

Webb Franklin School Fund. — This is a legacy made in the year 1828 by Rufus Webb, formerly writing-master in one of the public schools.

The income from this fund has been applied to the purchase of books, etc., for the use of indigent scholars in the writing department of the Franklin School.

Invested in one certificate of City of Boston six per cent. stock	$1,000 00

The last collection of the income of this fund was made by the master of the Franklin school, September 1, 1875. Since that time the income has accumulated to the amount of $720; as there seems to be no way to use the income in the manner proposed, the city being obliged, under the free text-book law, to supply pupils with all books needed.

Undoubtedly the schools do not derive the benefit intended from the last three funds mentioned that was contemplated by the donors, — which was, no doubt, to use the income to increase the efficiency of the schools over what could be done by the expenditures incurred by the city; and the question of securing proper legal or statute authority by which this can be carried into effect is worthy of consideration.

In the following pages of this report will be found a list of the buildings occupied by the High, Grammar, Primary, and Special Schools, their location, number of rooms in each, and the number of instructors employed. The valuation of each building is also given, as appraised by the assessors, May 1, 1886.

The total valuation of the buildings and land used for each of the different grades of schools was as follows: —

High Schools	$1,260,000 00
Grammar Schools	4,242,700 00
Primary Schools	2,859,800 00
Special Schools	30.000 00
Total valuation, May 1, 1866	$8,392,500 00

The original cost of the same to May 1, 1886, was about $7,495,500.

From the assessors' valuation of May 1, 1886, we find the average valuation of each building owned by the city and occupied for school purposes to be $51,173.78.

The average valuation of the school-houses in each grade is as follows: —

High Schools	$157,500 00
Grammar Schools	78,568 52
Primary Schools	28,314 85
Special Schools	30,000 00

The total expenditure for the public schools, including new school-houses, for the past year, was as follows: —

School Committee		$1,485,343 29
Public Building Department (ordinary),		163,111 38
Public Building and City Architect's Departments new school-houses (special),		133,608 78
Total gross expenditure		$1,782,063 45
Income for the year was as follows: —		
School Committee	$33,388 28	
Public Building Department (ordinary),	295 92	
Sale of old buildings (special),	11,285 05	
		44,969 25
Total net expenditure		$1,737,094 20

The total ordinary expenses of the public schools, which include the expenditures of the School Committee and the cost for repairs and the renewal of furniture, for the past thirty years, amounted to $32,790,819.33, — an average cost for each year of $1,093,027.31. The cost for new school-houses

during the same period was $6,506,791.73, — an average cost for each year of $216,893.06; indicating that about one-sixth of the annual cost for the schools is for new buildings.

Your committee have added to this report the estimates for the present financial year, as prepared and presented to the City Auditor, last February, in accordance with the rules.

The amount of the estimates was $1,566,848.

The City Council reduced the estimates $27,000, and granted $1,539,848.

Of the amount granted, $1,400,000 will be required for salaries, leaving $140,000 for fuel, gas, and water, books and supplies, and all other necessary expenses for carrying on the present system of education.

Your committee would call the attention of the Board to the fact that the appropriation granted will not permit of any new expenditure; and they would suggest that the passage of any orders calling for unusual expenditure during the year be made to depend upon favorable action of the City Council in granting such an additional appropriation as will be required to cover the proposed action.

Respectfully submitted,

WILLIAM C. WILLIAMSON,
Chairman.
JOHN W. PORTER,
EDWIN H. DARLING,
HENRY CANNING,
GERALD GRIFFIN,
Committee on Accounts.

SCHOOL EXPENSES.

ANNUAL EXPENDITURES for the Public Schools of Boston for the last thirty financial years, ending 30th April in each year; also the average number of scholars. Annexations occurred as follows: Roxbury, Jan. 6, 1868; Dorchester, Jan. 3, 1870; Charlestown, Brighton, and West Roxbury, Jan. 5, 1874.

FINANCIAL YEAR.	No. of Day Scholars.	No. of Evening Scholars.	Total No. of Scholars.	Salaries of Teachers and Officers, School Committee.	Incidental Expenses.	Total for Running Expenses.	Ordinary Revenue.	Net Running Expenses.	Net Rate per Scholar.	Cost of new School-houses.	Total Expenditures.
1857–58 . . .	24,732	. . .	24,732	$265,526 79	$80,871 20	$346,397 99	$7,240 17	$339,157 82	$13 71	$225 00	$346,622 99
1858–59 . . .	25,453	. . .	25,453	275,784 03	79,823 73	355,607 76	7,027 04	348,580 72	13 70	105,186 42	460,794 18
1859–60 . . .	25,328	. . .	25,328	284,920 46	89,548 60	374,469 06	6,906 35	367,562 71	14 51	144,562 67	519,031 73
1860–61 . . .	26,488	. . .	26,488	294,395 39	114,136 34	408,531 73	6,444 83	402,086 90	15 18	223,853 28	632,385 01
1861–62 . . .	27,081	. . .	27,081	308,348 28	110,427 06	418,775 34	6,805 06	411,970 28	15 21	155,392 40	574,167 74
1862–63 . . .	27,051	. . .	27,051	319,066 22	113,847 17	432,913 39	6,885 50	426,027 89	15 75	101,953 62	534,867 01
1863–64 . . .	26,961	. . .	26,961	332,710 66	132,761 75	465,472 41	7,185 78	458,286 63	17 00	5,870 87	471,343 28
1864–65 . . .	27,095	. . .	27,095	380,833 06	172,331 78	553,164 84	7,927 56	545,237 28	20 12	90,609 84	643,774 68
1865–66 . . .	27,204	. . .	27,204	412,550 82	163,270 76	575,821 58	8,574 22	567,247 36	20 85	200,553 64	776,375 22
1866–67 . . .	28,002	. . .	28,002	503,596 66	176,108 85	679,705 51	5,858 93	673,846 58	24 06	101,575 09	781,280 60
1867–68 . . .	27,982	. . .	27,982	561,169 98	211,536 43	772,706 41	10,467 05	762,239 36	27 24	188,790 80	961,497 21
1868–69 . . .	33,994	. . .	33,994	738,198 37	244,478 63	982,677 00	8,876 68	973,800 32	28 64	346,610 78	1,329,287 78
1869–70 . . .	35,442	. . .	35,442	739,345 65	248,066 95	987,412 60	14,661 16	972,751 44	27 45	612,337 86	1,599,750 46
1870–71 . . .	36,758	. . .	36,758	838,366 77	293,232 59	1,131,599 36	23,806 35	1,107,793 01	30 14	443,679 71	1,575,279 07
1871–72 . . .	36,650	5,128	41,778	886,940 47	329,639 18	1,216,579 65	26,899 98	1,189,679 67	28 47	97,800 68	1,314,380 33
1872–73 . . .	35,624	2,121	37,745	953,502 06	338,970 85	1,292,472 91	28,113 93	1,264,358 98	33 50	454,230 34	1,746,703 25
1873–74 . . .	41,544	1,714	43,258	1,041,375 52	377,681 52	1,419,057 04	28,848 73	1,390,208 31	32 14	446,663 25	1,865,720 29
1874–75 . . .	44,942	1,522	46,464	1,249,498 93	474,874 68	1,724,373 61	26,220 82	1,698,152 79	36 54	356,669 74	2,081,043 35
1875–76 . . .	45,924	3,393	49,317	1,266,803 59	470,830 68	1,737,634 27	20,635 72	1,716,998 55	34 82	277,746 57	2,015,380 84
1876–77 . . .	46,581	3,727	50,308	1,268,604 23	422,472 22	1,691,076 45	21,999 03	1,669,077 42	33 18	125,539 04	1,816,615 49
1877–78 . . .	47,675	4,084	51,759	1,215,782 03	366,334 06	1,582,116 09	30,109 31	1,552,006 78	29 99	174,324 75	1,756,440 84
1878–79 . . .	49,700	3,562	53,262	1,172,489 69	347,173 23	1,519,662 92	32,145 54	1,487,517 38	27 93	240,222 98	1,759,885 90
1879–80 . . .	50,851	3,130	53,981	1,162,258 61	353,108 23	1,515,366 84	49,090 28	1,466,276 56	27 16	136,878 45	1,652,245 29
1880–81 . . .	51,542	3,170	54,712	1,165,402 69	394,274 82	1,559,677 51	74,076 08	1,485,601 43	27 15	215,359 64	1,775,037 15
1881–82 . . .	52,611	3,027	55,638	1,165,629 71	405,349 36	1,570,979 07	69,591 58	1,501,387 49	26 98	139,126 88	1,710,105 95
1882–83 . . .	54,590	2,964	57,554	1,180,193 73	422,968 76	1,603,162 49	73,509 56	1,529,652 93	26 58	77,628 73	1,680,791 22
1883–84 . . .	55,640	3,148	58,788	1,206,683 23	433,023 33	1,639,706 56	79,364 66	1,560,341 90	26 54	268,879 72	1,908,586 28
1884–85 . . .	55,888	3,818	59,706	1,230,771 71	474,681 43	1,705,453 14	39,574 76	1,665,878 38	27 90	278,114 05	1,983,567 19
1885–86 . . .	57,180	4,079	61,259	1,251,403 29	422,269 54	1,673,672 83	31,350 84	1,642,321 99	26 81	362,796 15	2,036,468 98
1886–87 . . .	58,266	3,993	62,259	1,269,545 91	378,908 76	1,648,454 67	33,684 20	1,614,770 47	25 94	133,608 78	1,782,063 45

(From Report of James H. Dodge, Esq., City Auditor.)

CALENDAR FOR SCHOOL YEAR 1887-88.

APRIL.

Su	Mo	Tu	We	Th	Fr	Sa
..	..	..	..	..	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
..	..	..	..	..	..	..

MAY.

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	..	..	..	..
..	..	..	..	..	..	..

JUNE.

Su	Mo	Tu	We	Th	Fr	Sa
..	..	..	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	..	..
..	..	..	..	..	..	..

JULY.

Su	Mo	Tu	We	Th	Fr	Sa
..	..	..	..	..	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	..	..	..	..	..	..

AUGUST.

Su	Mo	Tu	We	Th	Fr	Sa
..	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	..	..	..
..	..	..	..	..	..	..

SEPTEMBER.

Su	Mo	Tu	We	Th	Fr	Sa
..	..	..	..	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	..
..	..	..	..	..	..	..

OCTOBER.

Su	Mo	Tu	We	Th	Fr	Sa
..	..	..	..	..	..	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	..	..	..	..	..

NOVEMBER.

Su	Mo	Tu	We	Th	Fr	Sa
..	..	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	..	..	..
..	..	..	..	..	..	..

DECEMBER.

Su	Mo	Tu	We	Th	Fr	Sa
..	..	..	..	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
..	..	..	..	..	..	..

JANUARY.

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	..	..	..	..
..	..	..	..	..	..	..

FEBRUARY.

Su	Mo	Tu	We	Th	Fr	Sa
..	..	..	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	..	..	..
..	..	..	..	..	..	..

MARCH.

Su	Mo	Tu	We	Th	Fr	Sa
..	..	..	..	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
..	..	..	..	..	..	..

Figures in black indicate days on which schools are in session; in red, days on which they are closed.

Besides these, Thanksgiving and the Friday following, and Fast Day, are holidays.

The regular meetings of the School Committee are on the evenings of the second and fourth Tuesdays in each month, except July and August.

PAY-DAYS FOR THE TEACHERS OF THE PUBLIC SCHOOLS BY THE CITY TREASURER.

Payments are made at the school-houses on the following *working* days of the schools each month, according to the time the rolls are received by the Treasurer: —

Last or first Monday: Roxbury High, Bowdoin, Dillaway, Dudley, Hyde, Phillips, Sherwin, and Wells.

Last or first Tuesday: Dorchester High, West Roxbury High, Agassiz, Charles Sumner, Eliot, George Putnam, Hancock, Harris, Hillside, Lowell, Minot, and Stoughton.

Last or first Wednesday: Brighton High, East Boston High, Adams, Allston, Bennett, Chapman, Emerson, Lyman, and Martin.

Last or first Thursday: Normal, Latin, Charlestown High, English High, Brimmer, Bunker Hill, Dorchester-Everett, Frothingham, Gibson, Harvard, Mather, Mt. Vernon, Prescott, Prince, Rice, Tileston, Warren, Winthrop, and Horace Mann.

Last or First Friday: Girls' Latin, Girls' High, Andrew, Bigelow, Dearborn, Dwight, Everett, Franklin, Gaston, Lawrence, Lewis, Lincoln, Norcross, Quincy, and Shurtleff.

The schools in East Boston, Charlestown, North End, and West End, are paid by Mr. Gibson; the remainder of the schools in the city proper by Mr. Carty; those in Roxbury, West Roxbury, and Brighton by Mr. Gibbons; and those in South Boston and Dorchester by Mr. Vaughn.

Janitors are paid on the same days as the teachers.

Should there be any single sessions or extra holidays the above would be liable to be changed.

Teachers not paid on the regular days will be paid at the Treasurer's office, between 9 A.M. and 2 P.M., any day after the paymaster has visited the school.

Teachers are expected to collect their salaries in person, except in cases of sickness, when orders addressed to the *City Treasurer* will be received.

Evening-School teachers and Special Instructors will be paid on the last secular day but one of each month, between 9 A.M. and 2 P.M., at the City Treasurer's office, City Hall.

SALARIES OF OFFICERS AND TEACHERS OF THE PUBLIC SCHOOLS, 1887–88.

Superintendent	$4,200 00
Supervisors (each)	3,780 00
Secretary	2,880 00
Auditing Clerk	2,880 00

Normal School.

Head-Master	$3,780 00
First Assistant, first year, $1,440; annual increase, $36; maximum	1,620 00
Second Assistants, first year, $1,140; annual increase, $48; maximum	1,380 00

FIRST GRADE.

High Schools.

Head-Masters	$3,780 00
Masters	2,880 00
Junior-Masters, first year, $1,008; annual increase, $144; maximum (with rank of master),	2,880 00

SECOND GRADE.

Grammar Schools.

Masters, first year, $2,580; annual increase, $60; maximum	$2,880 00
Sub-Masters, first year, $1,500; annual increase, $60; maximum	2,280 00
Principal Tileston School	1,380 00

THIRD GRADE.

High Schools.

Assistant Principal	$1,800 00
[1]First Assistants	1,620 00

[1] It has been voted to abolish this grade when the three present incumbents retire from service.

Assistants, first year, $756; annual increase, $48; maximum	$1,380 00

FOURTH GRADE.

Grammar and Primary Schools.

First Assistants, first year, $900; annual increase, $36; maximum	$1,080 00
Second Assistants, first year, $756; annual increase, $12; maximum	816 00
Third Assistants, first year, $456; annual increase, $48; maximum	744 00
Fourth Assistants, first year, $456; annual increase, $48; maximum	744 00

SPECIAL GRADE.

Special Instructors of Music (each) . . .	$2,640 00
Director of Drawing	3,000 00
Instructor in Hygiene	3,000 00
Teacher of Chemistry, Girls' High School . .	1,380 00
Assistant in Chemistry, Girls' High School .	744 00
Teacher of Physical Culture, Girls' High School,	960 00
Teacher of Physical Culture, Girls' Latin School,	492 00
Teacher of Drawing, Penmanship, etc., Normal School	828 00
Director of French and German . . .	3,000 00
Assistants in French and German (each) . .	1,000 00
Principal Horace Mann School for the Deaf .	1,800 00
First Assistant, " " " " .	900 00
Assistants, first year, $700; second year and subsequently	800 00
Instructor in Manual Training School . .	1,200 00
Instructors in Schools of Cookery, first year, $456; annual increase, $48; maximum . .	744 00
Instructor Military Drill	1,500 00
Armorer	660 00

Sewing, one division	$108 00
" two divisions	192 00
" three "	276 00
" four "	348 00
" five "	420 00
" six "	492 00
" seven "	540 00
" eight "	588 00
" nine "	636 00
" ten "	684 00
" eleven "	732 00
" all over eleven divisions	744 00
Principal, Evening High School (per week), first year, $30; second year, $40; third year and subsequently	50 00
Assistants, Evening High School (per evening),	4 00
Principals, Evening Elementary Schools (per evening)	4 00
Assistants, Evening Elementary Schools (per evening)	1 50
Masters, Evening Drawing Schools (per evening), first year, $8; second year, $9; third year and subsequently	10 00
Head-Assistants, Evening Drawing Schools (per evening)	6 00
Assistants, Evening Drawing Schools (per evening)	5 00
Special Assistant Teachers, lowest classes, Primary Schools (per week)	5 00

Masters elected as Principals of High Schools, whose average whole number for the preceding school year exceeds one hundred pupils, receive $288; Sub-masters, elected as Principals, $216; each, in addition to the regular salary of the rank.

Temporary junior-masters receive $5 per day of actual service.

Other temporary teachers receive one quarter of one per cent. of the maximum salary of the grade per day of actual service.

APPROPRIATIONS AND EXPENDITURES.

FOR

PUBLIC SCHOOLS.

APPROPRIATIONS.

Salaries of instructors .	. $1,200,000 00	
Salaries of officers . .	59,000 00	
School expenses . . .	225,000 00	
		$1,484,000 00

EXPENDITURES.

1886. *Requisitions in accordance with the same, for May.*			
Salaries of instructors .	$97,211 48		
Salaries of officers . .	4,818 33		
School expenses,	14,223 87		
		$116,253 68	
Requisitions for June.			
Salaries of instructors .	$97,593 75		
Salaries of officers . .	4,788 33		
School expenses,	10,497 92		
		112,880 00	
Carried forward,		$229,133 68	$1,484,000 00

Brought forward,		$229,133 68	$1,484,000 00
Requisitions for July.			
Salaries of instructors .	$194,598 12		
Salaries of officers . .	9,636 67		
School expenses,	17,900 01		
		222,134 80	
Requisitions for August.			
School expenses,	$24,465 51	24,465 51	
Requisitions for September.			
Salaries of instructors .	$96,248 06		
Salaries of officers . .	4,818 33		
School expenses,	46,240 58		
		147,306 97	
Requisitions for October.			
Salaries of instructors .	$96,153 84		
Salaries of officers . .	4,775 01		
School expenses,	18,655 52		
		119,584 37	
Requisitions for November.			
Salaries of instructors .	$103,168 44		
Salaries of officers . .	4,497 83		
School expenses,	12,639 83		
		120,306 10	
Carried forward,		$862,931 43	$1,484,000 00

Brought forward,		$862,931 43	$1,484,000 00
Requisitions for December.			
Salaries of instructors .	$107,356 53		
Salaries of officers . .	4,403 33		
School expenses,	10,264 25		
		122,024 11	
1887. *Requisitions for January.*			
Salaries of instructors .	$106,082 13		
Salaries of officers . .	4,403 34		
School expenses,	10,316 49		
		120,801 96	
Requisitions for February.			
Salaries of instructors .	$104,380 07		
Salaries of officers . .	4,403 33		
School expenses,	14,977 00		
		123,760 40	
Requisitions for March.			
Salaries of instructors .	$106,395 56		
Salaries of officers . .	4,403 33		
School expenses,	17,224 32		
		128,023 21	
Carried forward,		$1,357,541 11	$1,484,000 00

Brought forward,		$1,357,541 11	$1,484,000 00
Requisitions for April.			
Salaries of instructors	$104,618 26		
Salaries of officers	4,791 84		
School expenses,	16,989 37		
		126,399 47	
(Transferred from salaries of officers to salaries of instructors, $3,200.91.)			
(Transferred from school expenses to salaries of instructors, $10,605.33.)			
Balance unexpended, returned to the City Treasurer			59 42
		$1,483,940 58	$1,483,940 58

EXPENDITURES BY THE SCHOOL COMMITTEE.

SALARIES OF OFFICERS.

Superintendent	$4,200 00
Supervisors (six)	21,273 00
Secretary	2,880 00
Secretary's assistant	1,000 00
Auditing Clerk	2,880 00
Auditing Clerk's assistant	1,320 00
Assistant in offices of School Board	600 00
Copyist	1,000 00
Messengers	1,730 00
Truant-officers (sixteen)	18,856 67
Total for officers	$55,739 67

SALARIES OF INSTRUCTORS.

High Schools.

Normal	$8,606 40	
Latin	32,796 17	
Girls' Latin	8,817 84	
English High	42,378 12	
Girls' High	30,905 25	
Roxbury High	11,213 47	
Charlestown High	10,508 85	
Dorchester High	8,051 64	
Brighton High	5,004 36	
West Roxbury High	5,996 24	
East Boston High	6,996 62	
Total for High Schools		$171,274 96

Grammar Schools.

Adams	$11,206 79	
Agassiz	7,545 07	
Allston	11,227 93	
Andrew	14,080 65	
Bennett	9,353 44	
Bigelow	15,773 87	
Bowdoin	10,628 83	
Brimmer	15,392 33	
Bunker Hill	15,130 27	
Chapman	14,127 96	
Charles Sumner	8,176 43	
Comins	16,009 09	
Dearborn	18,995 07	
Dillaway	13,260 28	
Dorchester-Everett	13,595 12	
Dudley	14,977 62	
Carried forward	$209,480 75	$171,274 96

Brought forward,	$209,480 75	$171,274 96
Dwight	14,278 23	
Eliot	21,028 92	
Emerson	14,871 55	
Everett	14,279 26	
Franklin	14,515 94	
Frothingham	14,576 00	
Gaston	11,739 74	
George Putnam	6,836 74	
Gibson	11,868 60	
Hancock	12,460 92	
Harris	6,007 46	
Harvard	13,361 40	
Hillside	8,354 15	
Hyde	12,377 80	
Lawrence	18,935 26	
Lewis	14,543 30	
Lincoln	16,986 55	
Lowell	13,351 59	
Lyman	14,515 60	
Martin	7,067 74	
Mather	10,638 28	
Minot	7,241 87	
Mt. Vernon	5,755 07	
Norcross	14,599 20	
Phillips	15,777 44	
Prescott	10,825 20	
Prince	11,113 63	
Quincy	13,831 33	
Rice	13,643 00	
Sherwin	10,403 37	
Shurtleff	13,810 00	
Stoughton	7,336 48	
Carried forward,	$606,412 37	$171,274 96

Brought forward,	$606,412 37	$171,274 96
Tileston	2,124 00	
Warren	14,167 27	
Wells	11,181 00	
Winthrop	17,248 51	
Total for Grammar Schools . .		651,133 15
Primary Schools by Districts.		
Adams District . . .	$6,360 60	
Agassiz " . . .	2,280 47	
Allston " . . .	5,524 87	
Andrew " . . .	7,227 41	
Bennett " . . .	4,664 73	
Bigelow " . . .	9,251 37	
Bowdoin " . . .	5,845 87	
Brimmer " . . .	6,247 33	
Bunker Hill District . .	8,718 00	
Chapman " . .	4,560 00	
Charles Sumner District .	4,604 95	
Comins " . .	7,104 41	
Dearborn " . .	13,755 51	
Dillaway " . .	5,098 16	
Dorchester-Everett District .	7,766 37	
Dudley " .	8,412 97	
Dwight District . .	5,473 35	
Eliot " . .	7,099 61	
Emerson " . .	7,135 39	
Everett " . .	7,882 88	
Franklin " . .	9,472 00	
Frothingham " . .	6,505 47	
Gaston " . .	10,763 34	
George Putnam " . .	2,592 76	
Gibson " . .	4,439 55	
Carried forward,	$168,787 37	$822,408 11

Brought forward,	$168,787 37	$822,408 11
Hancock District . . .	10,250 74	
Harris " . . .	3,142 34	
Harvard " . . .	8,509 71	
Hillside " . . .	3,299 58	
Hyde " . . .	4,312 33	
Lawrence " . . .	13,809 46	
Lewis " . . .	7,976 90	
Lincoln " . . .	4,340 80	
Lowell " . . .	7,736 33	
Lyman " . . .	7,359 02	
Martin " . . .	2,146 14	
Mather " . . .	4,908 44	
Minot " . . .	3,554 53	
Mt. Vernon " . . .	1,896 77	
Norcross " . . .	9,439 50	
Phillips " . . .	4,112 34	
Prescott " . . .	5,964 36	
Prince " . . .	2,313 47	
Quincy " . . .	9,766 20	
Rice " . . .	5,864 00	
Sherwin " . . .	6,109 48	
Shurtleff " . . .	4,865 74	
Stoughton " . . .	2,793 20	
Tileston " . . .	1,207 39	
Warren " . . .	4,820 74	
Wells " . . .	11,454 12	
Winthrop " . . .	4,367 20	
Total for Primary Schools . . .		325,108 20
Special Schools.		
Horace Mann $8,151 93		
Manual Training 1,448 00		
	$9,599 93	
Carried forward,	$9,599 93	$1,147,516 31

Brought forward,		$9,599 93	$1,147,516 31
Evening Schools.			
Evening High School	$8,616 00		
Allston	315 50		
Anderson st.	785 00		
Bigelow	1,724 50		
Comins	1,534 00		
Dearborn	1,229 50		
Eliot	1,792 00		
Franklin	1,967 50		
Lincoln	1,111 00		
Lyman	1,534 00		
Quincy	1,534 00		
Sherwin	555 00		
Warren	1,565 50		
Warren-st. Chapel	461 50		
Wells	1,536 00		
		26,261 00	
Evening Drawing Schools.			
Warren ave.	2,107 00		
Tennyson st.	2,453 00		
Charlestown	1,518 00		
Roxbury	1,488 00		
East Boston	1,503 00		
		9,069 00	
Special Instructors.			
Music	$13,200 00		
Drawing	3,000 00		
Military Drill and Armorer,	2,160 00		
Hygiene	3,000 00		
		21,360 00	
Total for Special Schools and Special Instructors			66,289 93
Total for School Instructors			$1,213,806 24

SCHOOL EXPENSES.

Books	$34,018 82	
Phil. Apparatus and Supplies,	1,035 15	
Slates, Erasers, etc.	1,818 95	
Pianos: tuning, repairs, etc.	1,597 50	
Expressage	48 55	
Extra labor and clerk-hire	85 50	
Printing	4,620 81	
Diplomas	1,135 84	
Maps and Globes	720 09	
Car and Ferry Tickets	497 79	
Stationery, Drawing Materials, and Postage	8,972 44	
Advertising	238 47	
Annual Festival	1,821 18	
Fuel, Gas, and Water	57,387 05	
Delivering Supplies	4,820 01	
Janitors' Supplies	3,115 70	
Horse and Carriage Expenses and Carriage-Hire	517 60	
Census, including books	999 50	
Military Drill: arms and repairs	230 65	
Manual Training Supplies	515 35	
Sundries	394 77	
Gross amount expended under the direction of the Committee on Supplies		$124,591 72
Salaries paid Janitors		89,802 95
Total for School Expenses		$214,394 67

TOTAL AMOUNT EXPENDED BY THE SCHOOL COMMITTEE.

Salaries of officers	$55,739 67
Salaries of instructors	1,213,806 24
School expenses	214,394 67
Total expenditure from the appropriation,	$1,483,940 58
Expended for Dorchester Schools, from income of the Gibson fund	1,402 71
Gross expenditure	$1,485,343 29
Less income	33,388 28
Net expenditure for the year	$1,451,955 01

APPROPRIATIONS EXPENDED BY PUBLIC BUILDING DEPARTMENT.

High, Grammar, and Primary School-houses,			$165,000 00
Requisitions in accordance.			
1886.	May	$7,484 18	
"	June	5,527 49	
"	July	7,132 05	
"	August	6,630 32	
"	September	34,699 97	
"	October	40,508 06	
"	November	14,010 85	
"	December	11,439 32	
1887.	January	11,963 70	
"	February	7,075 96	
"	March	5,813 34	
"	April	10,826 14	
"	April. Transferred to Public Buildings and City Treasury,		1,888 62
Total expenditure		$163,111 38	$163,111 38

PUBLIC BUILDING DEPARTMENT.

Furniture		$23,674 39
Carpentry, lumber, and hardware		28,475 76
Heating-apparatus		24,219 41
Masonry, paving, drains, etc.		16,326 40
Rents and taxes: —		
Primary Schools	$3,053 47	
Grammar Schools	685 00	
Evening Drawing School, E. B.,	940 00	
Military Drill, High School, Rox.,	350 00	
		5,028 47
Painting and glazing		10,029 62
Whitening and plastering		5,931 42
Gas-fitting, plumbing, and ventilation		18,196 06
Blackboards		4,105 33
Locks, keys, and bells (electric)		1,011 58
Roofing, gutters, and conductors		7,361 60
Iron and wire work		1,692 20
Watering, and care of grounds		2,077 48
Sash-elevators and weather-strips		697 97
Cleaning vaults		570 00
Sewer assessments		2,743 78
Teaming and supplies		1,181 51
Fire-extinguishers		360 00
Asphalt		3,094 50
Cleaning buildings		413 65
Miscellaneous, including: —		
Horseshoeing and care of horses		
Salaries		
Printing and stationery		5,920 25
Advertising		
Lightning-rods and weather-vanes		
Gross expenditure		$163,111 38
Less income		295 92
Net expenditure, Public Building Department,		$162,815 46

PUBLIC SCHOOLS.

The Public Schools of the city proper and its annexed wards comprise one Normal School, two Latin Schools, eight High Schools, and fifty-two Grammar Schools. Each Grammar School represents a district, in which are located Primary Schools, occupying in total one hundred Primary buildings, forty-one rooms in various Grammar School-houses, and ten hired rooms in different buildings. Hired rooms in four more different buildings are also occupied by five Grammar classes in addition to thirty-one rooms in Primary school buildings.

NORMAL, LATIN, AND HIGH SCHOOLS.

Name.	Location.	No. of feet in lot.	When built.	Valuation May, 1886.	No. of rooms.	No. of regular instructors.	Remarks.
Normal	Dartmouth street	. . .	. .	. . . . .	2 and hall	5	Occupies the upper story of the Rice school-house.
Latin	Dartmouth and Montgomery sts. and Warren ave.	85,560	1880	$629,000	78 and halls	13	(78) Including rooms for recitation and apparatus.
English High .						19	
Girls' High . .	W. Newton street	30,454	1870	273,400	66 and hall	23	(66) Including rooms for recitation and apparatus.
Girls' Latin . .						6	Occupies 6 rooms including two class rooms, in Girls' High School building.
*Roxbury High .	Kenilworth street	6,990	1861	46,000	8	7	
Dorchester High	Dorchester ave .	59,340	1870	70,100	6 and hall	6	
*Charl'stown High	Monument sq. .	10,247	1848	93,000	10 and hall	7	Remodeled in 1870.
W. Roxbury High	Elm street, J.P. .	32,262	1867	50,600	5	4	
Brighton High . .	Academy Hill . .	54,448	1841	25,400	5 and hall	3	
E. Boston High .	Meridian street .	13,616	1884	72,500	6 and hall	5	Library and Court-rooms attached to this building.
Total valuation	of High Schools .	. . .	. .	$1,260,000			

*One additional temporary teacher employed in this school.

EXPENDITURES FOR THE NORMAL, LATIN, AND HIGH SCHOOLS.

Aggregate expenditures made by the Board of School Committee and the Public Building Department of the City Council for the High Schools of the city, during the financial year 1886–87 : —

Salaries of Instructors	$171,274 96
Expenditures for Text-books, Maps, Globes, Drawing Materials, Stationery, etc.	9,583 11
Janitors	10,751 00
Fuel, Gas, and Water	7,558 70
	$199,167 77
Public Building Department.	
Furniture, Repairs, etc.	13,516 92
Total Expense for High Schools	$212,684 69
Number of instructors in High Schools, exclusive of temporary teachers, and special instructors in French, German, Calisthenics, Drawing, Music, and Military Drill	98
Salaries paid the same	$162,939 42
Average amount paid each instructor	$1,662 65
Temporary teachers employed during the year	7
Salaries paid the same	$1,721 05
Average number of pupils belonging	2,944
Salaries paid to special instructors in French, German, and Calisthenics	$6,614 49
Average cost of each pupil	$72 24
Average number of pupils to a regular instructor, including principal	30

[1]The original cost of the buildings and land for the various High Schools amounted in the aggregate to about $1,257,000, the assessed value is $1,260,000, an increase of about $3,000.

[1] Cost and assessed value, May 1, 1886.

GRAMMAR SCHOOLS.

Name.	Location.	No. of feet in lot.	When built.	Valuation, May, 1886.	No. of rooms.	No. of instructors.	Remarks.
Adams	Belmont sq., E.B. .	21,000	1856	$78,400	13 and hall.	11	Three primary classes in this building.
Agassiz	Brewer st., J.P. . .	33,518	1849	41,200	6	7	Remodeled in 1871.
Allston	Cambridge st., All.	22,000	1878	55,500	10 "	12	Occupied March 27, 1879.
Andrew	Dorchester st., S.B.,	24,889	1876	75,000	16 "	15	
Bennett . . .	Chestn't Hill av., Br.	26,648	1874	67,000	7 "	7	
Bennett B'ch.	Winship pl., Br. .	9,605	1886	21,900	6	4	
Bigelow	Fourth st., S.B. . .	12,660	1850	75,800	14 "	16	Inc. one in Hawes Hall School.
Bowdoin . . .	Myrtle street . . .	4,892	1848	70,700	12	10	
Brimmer . . .	Common street . .	11,081	1843	93,300	14 "	15	
Bunker Hill . .	Baldwin st., Ch'n. .	19,660	1866	91,000	14 "	14	Primary School-house on this lot. One primary class.
Chapman . . .	Eutaw st., E.B. . .	20,500	1850	71,800	13 "	13	
*Chas. Sumner,	Ashland st., W.R. .	30,000	1877	43,000	10 "	9	One primary class.
*Comins. . . .	Tremont st., Rox. .	22,169	1856	80,200	13 "	12	
Dearborn . . .	Dearborn pl., Rox.,	36,926	1852	54,200	14 "	20	Inc. three in Yeoman st. and two in †Vine-st. School.
*Dillaway. . .	Kenilworth st., Rox.	21,220	1882	100,700	12 "	13	Temporary teacher in Bartlett-street School.
Dor.-Everett .	Sumner st., Dor. .	43,738	1876	47,300	10 "	14	Inc. two in Howard-avenue School. Old Dor.-Everett School-house on this lot.
Dudley	Dudley st., Rox. . .	26,339	1874	126,900	14 "	15	
Dwight	W. Springfield st. .	19,125	1857	98,700	14 "	14	
Eliot	North Bennet st. .	11,077	1838	93,000	14 "	17	Inc. two in Pormort School.
*Ware . . .	North Bennet st. .	6,439	1852	38,000	4 and ward-room.	4	
Emerson . . .	Prescott st., E.B. .	39,952	1865	120,000	16 and hall.	14	Inc. one at Orient Heights. Two primary classes.
Everett	W. Northampton st.	32,409	1860	110,500	14 "	15	
Franklin . . .	Ringgold st.	16,439	1859	111,100	14 "	15	
Valuation	*carried forward* .	. . . .	. .	$1,765,200			

* One additional temporary teacher employed in this school.
† This building is occupied by Grammar School pupils only.

Grammar Schools. — *Continued.*

Name.	Location.	No of feet in lot.	When built.	Valuation, May, 1886.	No. of rooms.	No. of instructors.	Remarks.
Valuation brought forward .	. . . .	. .	$1,765,200				
Frothingham .	Prospect st., Ch'n .	22,079	1874	97,600	16 and hall	13	Four primary classes.
*Gaston	East Fifth st., S.B.,	35,358	1872	57,600	14 "	11	Three primary classes.
George Putnam,	Seaver st., Rox. . .	33,750	1880	37,000	10 "	7	Four primary classes.
*Gibson	Columbia st., Dor. .	25,087	1872	53,000	8	11	Inc. three in Thetford av. and one in old Gibson School. Occupies Atherton School-house. One primary class.
*Hancock . . .	Parmenter street .	28,197	1847	85,000	14 "	12	One primary class, inc. two in Cushman. Cushman School-house on this lot.
*Harris	Adams st., Dor. . .	37,150	1861	35,000	8 "	6	Two prim'y classes.
*Harvard . . .	Devens st., Ch'n. .	16,306	1871	112,400	14 "	12	One primary class.
Hillside	Elm street, J.P. . .	18,613	1858	37,800	6	8	Incl'd'g one in Child-street school. Remodeled in 1870.
*Hyde	Hammond street . .	20,754	1884	80,800	14 "	13	
Lawrence . . .	B and Third streets, S.B.	14,343	1856	74,300	14 "	19	Inc. four in Mather.
Lewis	Sherman st., Rox. .	27,850	1868	83,900	12 "	14	
Lincoln	Broadway, S.B. . .	24,560	1859	45,300	14 "	17	Inc. one in Hawes-place Church and one in Benjamin Pope School.
*Lowell	Centre st., Rox. . .	35,241	1874	62,400	14 "	14	
Lyman	Paris st., E.B. . . .	26,200	1870	117,000	14 "	13	One primary class.
Martin	Huntington avenue, Rox.	26,800	1885	66,500	14 "	13	One primary class.
Mather	Meeting-house Hill, Dorchester . . .	132,500	1872	90,400	10 "	10	One primary class. Primary School and engine-house on this lot.
Minot	Neponset avenue, Neponset	31,500	1885	66,300	7 "	8	
Mt. Vernon . .	Mt. Vernon st., W.R.	22,744	1862	13,100	4 "	6	Including one in Washington-street School.
Norcross . . .	D street, S.B. . . .	12,075	1868	79,700	14 "	15	
Phillips	Phillips street . . .	11,190	1862	100,800	14 "	15	
Valuation carried forward . .	. . . .	. .	$3,161,100				

* One additional temporary teacher employed in this school.

Grammar Schools — *Concluded.*

Name.	Location.	No. of feet in lot.	When built.	Valuation, May, 1886.	Number of rooms.	Number of instructors.	Remarks.
Valuation	*brought forward*			$3,161,100			
Prescott	Elm street, Ch'n. .	16,269	. .	47,100	10 and hall	10	One primary class.
Prince	Exeter street . . .	22,960	1875	132,000	12 "	10	Three primary classes.
Quincy	Tyler street	12,413	1847	98,000	14 "	13	One primary class.
*Rice	Dartmouth street .	27,125	1869	145,500	14 "	12	Inc. one in Appleton-st. Sch. Upper story occupied by Normal School.
*Sherwin . . .	Madison sq., Rox. .	32,040	1870	104,200	16 "	12	Four prim'y classes.
Shurtleff . . .	Dorchester st., S.B.	40,553	1869	131,500	14 "	14	One primary class.
*Stoughton . .	River st., Dor. . .	29,725	1856	23,600	8	7	Inc. one in Bailey-st. School. One temporary teacher in Fuller-st. School. Two pri'y classes.
Tileston	Norfolk st., Dor. .	83,640	1863	40,000	8 "	2	Two prim'y classes.
Warren	Summer st., Ch'n. .	14,322	1867	80,000	14 "	14	One primary class.
Wells	Blossom street . .	10,770	1868	97,000	10 "	10	Inc. one in Blossom-street School.
Winthrop . . .	Tremont street . .	16,100	1855	182,700	14 "	19	Inc. two in Starr-King and one in East-st. School.
Total valuation	of Grammar Schools . .			$4,242,700			

* One additional temporary teacher employed in this school.

[Two of the Grammar instructors now teach in hired rooms.]

EXPENDITURES FOR THE GRAMMAR SCHOOLS.

Aggregate expenditures made by the Board of School Committee and the Public Building Department of the City Council, for the Grammar Schools of the city, for the financial year 1886–87 :—

Salaries of instructors	$651,133 15
Expenditures for Text-books, Maps, Globes, Writing and Drawing Materials, Stationery, etc.	33,127 65
Janitors	43,960 10
Fuel, Gas, and Water	26,853 45
	$755,074 35
Public Building Department.	
Rent, Furniture, Repairs, etc.	71,857 73
Total Expense for Grammar Schools	$826,932 08

Number of instructors in Grammar Schools, exclusive of temporary teachers, Sewing instructors, and special instructors in Drawing and Music	646
Salaries paid the same	$631,683 01
Average amount paid each instuctor	$977 84
Temporary teachers employed during the year	35
Salaries paid the same	$4,078 14
Average number of pupils belonging	30,689
Average cost of each pupil	$26 95
Average number of pupils to an instructor, including principal, and exclusive of special instructors above mentioned	48

29 instructors in Sewing were employed, who taught 214 divisions. The salary paid varies according to the number of divisions taught. Total amount paid to Sewing instructors, $15,372; average amount paid to each instructor, $530.07.

PRIMARY SCHOOLS.

Name.	Location.	No. of feet in lot.	When built.	Valuation, May, 1886.	No. of rooms.	No. of instructors.
*Adams	Belmont sq., E.B.	. . . .	. . . .	. . . . .	. . . . .	3
Adams street . .	Dorchester . . .	44,555	1861	$5,600	2	1
Andrews	Genesee st. . . .	5,393	1848	25,000	3	3
Appleton street .	. . . . .	18,454	1870	84,300	12	8
*Atherton	Columbia st., Dor.	25,087	1872	. . . . .	8	1
Auburn	School st., Br. .	12,340	. . . .	11,500	4	3
†Austin	Paris st., E.B. .	5,360	1849	24,800	6	4
Avon place . . .	Roxbury	10,057	1851	16,000	4	4
Bailey street . . .	Dorchester . . .	21,838	1880	5,200	2	1
Baker street . . .	West Roxbury .	10,464	. . . .	2,500	1	1
Baldwin	Chardon court .	6,139	1864	39,000	6	3
Bartlett street . .	Roxbury	7,627	1846	30,600	6	5
Benjamin Pope .	O st., S.B. . . .	20,000	1883	50,200	8	5
*Bunker Hill . .	Baldwin st., Ch'n	. . . .	. . . .	. . . . .	. . . . .	1
Bunker Hill Pr. .	Charles st., Ch'n	. . . .	. . . .	15,000	8	8
" " street	Cor. Tufts st., Ch'n	2,127	. . . .	5,600	2	2
Canterbury street	West Roxbury '.	20,121	. . . .	4,800	2	2
Capen	Sixth st., S.B. .	12,354	1871	36,200	6	6
†Centre street . .	West Roxbury .	5,644	. . . .	5,500	2	1
*Charles Sumner	Ashland st., W.R.	. . . .	. . . .	. . . . .	. . . . .	1
Chestnut avenue .	Jamaica Plain .	13,733	. . . .	6,400	2	2
Child street . . .	Jamaica Plain .	26,374	. . . .	12,600	2	‡
Clinch	F street S.B. . .	13,492	1871	40,800	6	6
Common street .	Charlestown . .	7,001	. . . .	20,400	6	3
†Concord street .	W. Concord st. .	10,756	1845	76,100	10	9
Cook	Groton street . .	8,177	1852	25,000	6	5
Cross street . . .	Charlestown . .	1,708	. . . .	6,400	2	2
Cushman	Parmenter street	. . . .	1867	97,000	16	12
Cyrus Alger . . .	Seventh st., S.B. .	16,560	1880	66,600	8	8
Dorchester av. . .	Dorchester . . .	27,808	1883	20,000	4	2
Drake	C street S.B. . .	10,260	1869	40,300	6	5

*In Grammar building.

† One additional temporary teacher employed in this school.

‡ Occupied by a grammar class and private cooking school.

Primary Schools. — *Continued.*

Name.	Location.	No. of feet in lot.	When built.	Valuation, May, 1886.	No. of rooms.	No. of instructors.
East street . . .	. . . . .	7,140	1866	61,000	9	6
*Emerson	Prescott st., E. B.	. . . .	. . . .	. . . . .	. . . . .	2
†Emerson	Poplar street . .	5,924	1861	35,700	6	5
Eustis st.	Roxbury	13,534	1848	22,000	4	4
Everett	Pearl st., Bri. . .	44,237	. . . .	7,500	2	2
Florence street .	Roslindale . . .	25,030	. . . .	6,800	2	1
Fourth street . .	Cor. Dorch'r st. .	. . . .	. . . .	. . . . .	2	2
Francis street . .	Roxbury	12,074	1853	24,200	6	3
Freeman	Charter street . .	5,247	1868	39,000	6	6
Fremont place . .	Charlestown . .	7,410	. . . .	6,700	1	1
*Frothingham . . .	Prescott st., Ch'n	. . . .	. . . .	. . . . .	. . . . .	4
*Gaston	L. cor. Fifth st., S. B.	. . . .	. . . .	. . . . .	. . . . .	3
*George Putnam .	Seaver st., Rox. .	. . . .	. . . .	. . . . .	. . . . .	4
George street . .	Roxbury	18,894	1861	51,200	6	6
Gibson	School st., Dor. .	44,800	1857	25,600	6	2
Glen Road . . .	Dorchester . . .	25,827	1880	6,400	2	1
Grant	Phillips st. . . .	3,744	1852	26,500	4	3
Green street . . .	Jamaica Plain . .	11,627	. . . .	8,600	2	2
*Hancock	Parmenter st. . .	. . . .	. . . .	. . . . .	. . . . .	1
*Harris	Adams st., Dor.	. . . .	. . . .	. . . . .	. . . . .	2
*Harvard	Devens st., Ch'n	. . . .	. . . .	. . . . .	. . . . .	1
Harvard Hill . .	Harvard st., Ch'n	4,645	. . . .	22,400	8	8
Haverhill street .	Charlestown . .	5,399	. . . .	5,900	2	2
Hawes Hall . . .	Broadway, S. B.	16,647	1823	55,500	8	7
Heath street . . .	Roxbury	10,669	1857	6,200	2	2
Hobart street . .	Faneuil	10,000	1884	6,800	2	1
Howard ave. . .	Dorchester . . .	29,090	1882	60,000	6	4
Howe	Fifth st., S. B. .	12,494	1874	48,700	8	7
Ingraham	Sheafe st.	2,354	1848	16,000	3	2
Joshua Bates . .	Harrison ave. . .	19,977	1884	60,000	8	5
*Lyman	Paris st., E. B. .	. . . .	. . . .	. . . . .	. . . . .	1
*Martin	Huntington ave., Rox.	. . . .	. . . .	. . . . .	. . . . .	1
Mather	Broadway, S. B.	10,160	1842	55,800	12	7

* In Grammar building.
† One additional temporary teacher employed in this school.

Primary Schools. — *Continued.*

Name.	Location.	No. of feet in lot.	When built.	Valuation, May, 1886.	No. of rooms.	No. of instructors.
*Mather	Meet'g-house Hill,	. . . .	. . . .	. . . . .	. . . . .	1
Mead street . . .	Charlestown . .	5,857	1847	18,500	4	4
Moulton street. .	Charlestown . .	8,130	. . . .	23,300	4	4
Mt. Pleasant av. .	Roxbury	9,510	1847	9,300	2	2
Munroe street . .	"	11,910	1854	10,800	2	2
Oak square . . .	Brighton . . .	9,796	. . . .	5,200	2	1
Old Dor.-Everett	Sumner st., Dor.	. . . .	1855	11,500	7	4
Old Dor. High . .	Dorch'ter ave.,"	34,460	. . . .	5,700	4	3
Old Mather . . .	Meet'g-house Hill,	. . . .	1856	11,600	6	5
Orient Heights ..	East Boston . .	24,000	1883	10,400	2	1
Parker street . .	Roxbury	30,000	1884	63,500	8	8
Parkman	Silver st., S.B. .	5,306	1848	23,200	6	5
Phillips street . .	Roxbury	20,595	1867	60,300	8	8
Polk street . . .	Charlestown . .	12,143	1878	32,800	6	6
Poplar street . .	Roslindale . . .	7,842	1852	2,200	2	1
Pormort.	Snelling place . .	4,373	1855	19,400	6	4
*Prescott	Elm st., Ch'n. .	. . . .	. . . .	. . . . .	. . . . .	1
*Prince	Exeter street . .	. . . .	. . . .	. . . . .	. . . . .	3
Princeton street .	East Boston . .	17,500	1874	55,300	8	7
*Quincy	Tyler street . . .	. . . .	. . . .	. . . . .	. . . . .	1
Quincy street . .	Dorchester . . .	20,000	1882	6,000	2	2
Quincy street . .	Roxbury	23,453	1875	31,400	8	4
Roxbury street .	"	14,147	1874	49,100	8	8
Rutland street . .	. . . . .	7,850	1851	36,800	6	5
Savin Hill	Dorchester . . .	20,060	1884	10,000	2	1
Sharp	Anderson street,	5,611	1824	43,300	6	5
*Sherwin	Madison sq. Rox.	. . . .	. . . .	. . . . .	. . . . .	4
*Shurtleff	Dorch'ter st., S.B.	. . . .	. . . .	. . . . .	. . . . .	1
Simonds	Broadway, S.B. . . .		1840	18,500	3	3
Skinner	Fayette street . .	5,238	1870	45,700	6	6
Smith street . . .	Roxbury	6,952	1849	5,800	2	2
Somerset street .	. . . . .	6,300	1824	53,500	4	3
Starr King . . .	Tennyson street,	11,095	1870	87,400	10 and hall	3
*Stoughton . . .	River st., Dor. .	. . . .	. . . .	. . . . .	. . . . .	2

*In Grammar building.

Primary Schools. — *Concluded.*

Name.	Location.	No. of feet in lot.	When built.	Valuation, May, 1886.	No. of rooms.	No. of instruc. tors.
Tappan	Lexington street, E. B.	11,500	. . . .	50,400	8	6
Thetford avenue .	Dorchester . . .	29,879	1875	17,400	4	2
Thomas street . .	Jamaica Plain . .	10,754	. . . .	8,200	3	3
Thornton street .	Roxbury	6,640	1847	6,500	2	2
Ticknor	Washington Vil.	11,486	1865	50,700	12	10
*Tileston	Norfolk st., Dor.	. . . .	. . . .	. . . . .	. . . . .	2
Tuckerman . . .	City Point, S. B. .	11,655	1850	15,500	6	6
Tyler street . . .	. . . . .	3,900	1855	39,800	6	6
Union street . . .	Brighton	67,280	. . . .	10,000	2	1
Vernon street . .	Roxbury	7,675	1849	10,900	4	4
Vine street . . .	Roxbury	. . . .	. . . .	14,000	2	†
Wait	Shawmut ave. . .	16,341	1860	96,100	8	7
Walnut street . .	Neponset	22,790	1856	22,500	7	4
*Warren	Summer st., Ch'n.	. . . .	. . . .	. . . . .	. . . . .	1
Washington street	Forest Hills . . .	27,450	. . . .	5,900	2	1
‡Wash'gton street	Germantown . .	13,159	. . . .	4,300	2	0
Washington st., near Green . .	Jamaica Plain . .	12,491	. . . .	5,500	2	2
Way street . . .	. . . . .	2,508	1850	17,500	3	3
Webb	Porter st., E. B. .	7,492	1853	23,700	6	5
Webster	Webster pl., Bri.	19,761	. . . .	11,500	4	3
Webster street .	East Boston . . .	5,036	1852	22,500	6	6
*Weston street .	Roxbury	14,973	1877	55,000	8	7
Winchell	Blossom street . .	13,540	1885	102,000	12	11
Winship	Winship pl., Bri.	24,259	1861	13,000	4	4
Winthrop street .	Roxbury	9,775	1857	10,900	4	4
Yeoman street . .	Roxbury . . .	18,200	1870	63,600	12	9
Total valuation of	Primary Schools	. . . .	. . . .	$2,859,800	. . . . .	. . . .

* In Grammar building. † Occupied by Grammar classes.

‡ One additional temporary teacher employed in this school.

In addition to the forgoing the following rooms have been hired for the use of ten Primary and five Grammar classes. Rent and taxes paid for the same and also for the rooms occupied by the East Boston Evening Drawing School and for military drill during the year amounted to $5,028.47 :—

Name.	Location.	No. of rooms.	No. of instructors.	Remarks.
Bank Building . .	E street, corner Broadway, S.B.	1	1	Rent $500 per annum and taxes.
Murray Chapel . .	400 Bunker Hill st., Charlestown . .	1	1	Rent $350 per annum.
Carey Hall	Clarendon Hills .	1	1	Rent $300 per annum.
Comins Branch .	1433 Tremont st. .	1	0	Rent $300 per annum. Not used since July 1, 1886.
" " .	1437 " " .	1	0	Rent $300 per annum. Not used since July 1, 1886.
" " .	1441 " " .	1	0	Rent $360 per annum. Not used since July 1, 1886.
" " .	Terrace st.	1	0	Rent $300 per annum. Not used since July 1, 1886.
Dearborn " .	6 Yeoman st. . . .	1	0	Rent $240 per annum. Unoccupied.
Gaston " .	L and Emerson sts.	1	1	Rent $400 per annum.
Hillside " .	203 & 205 Green st.	1	*1	Rent $250 per annum.
Lincoln " .	Hawes place . . .	1	1	Rent $360 per annum and water tax.
Day's Chapel . . .	Parker st., Rox. .	1	1	Rent $350 per annum.
Stoughton Branch .	I.O.O.F. Building,	1	1	Rent $400 per annum.
" " .	Fuller st.	2	*1	Rent $600 per annum. Occupied since Dec. 4, 1886.
East Boston Evening Drawing School	Stevenson's Block .	5	4	Rent $940 per anuum.
Drill Hall, Roxbury High School . . .	Bacon's Hall . . .	1	.	Rent $350 per annum.

* Temporary teacher.

EXPENDITURES FOR THE PRIMARY SCHOOLS.

Aggregate expenditures made by the Board of School Committee, and the Public Building Department of the City Council, for the Primary Schools of the city, for the financial year 1886–7 : —

Salaries of Instructors	$325,108 20
Expenditures for Text-books, Charts, Writing and Drawing Materials, Stationery, etc.	6,613 74
Janitors	32,955 59
Fuel, Gas, and Water	19,000 88
	$383,678 41
Public Building Department.	
Rent, Furniture, Repairs, etc.	68,106 47
Total Expense for Primary Schools	$451,784 88

Number of instructors in Primary Schools, exclusive of temporary teachers and special assistants	460
Salaries paid the same	$318,825 20
Average amount paid to each instructor	$693 10
Temporary teachers employed during the year	36
Salaries paid the same	$3,069 00
Special assistants employed during the year	47
Salaries paid the same	$3,214 00
Average number of pupils belonging	24,540
Average cost of each pupil	$18 41
Average number of pupils to an instructor	53

The original cost of the various buildings, with the land, used for Grammar and Primary Schools, to May 1, 1884, amounted in the aggregate to about $6,208,500 ; the assessed value May 1, 1886, was $7,102,500, — an increase of about $894,000.

SPECIAL SCHOOLS.

HORACE MANN SCHOOL FOR THE DEAF.

Name.	Location.	No. feet in lot.	When built.	Valuation May, 1886.	No. rooms.	No. instructors.
Horace Mann .	Warrenton street . .	3,078	1854	$30,000	6	9

The expenses of the school were as follows: —

Salaries of instructors	$8,151 93
Expenses for Books, Stationery, etc. . .	63 43
Janitor	396 00
Fuel, Water, and Gas	201 50
	$8,812 86
Public Building Department.	
Furniture, Repairs, etc.	253 03
Total expense for the school . .	$9,065 89
Average number of pupils belonging . .	75
Average number of pupils to an instructor .	8
Average cost of each pupil . . .	$120 88

The city receives from the State $100 for each city pupil, and $105 from each out-of-town pupil. The amount received from this source, the past year, was $6,743.90.

MANUAL TRAINING SCHOOLS.

The expenses of these schools were as follows: —

Salaries of Instructors	$1,448 00
Fuel, Gas, and Water	11 42
Lumber, Hardware, Kitchen Materials, etc. .	522 97
	$1,982 39
Public Building Department, repairs, etc. .	556 41
Total expense for these schools . . .	$2,538 80

EVENING SCHOOLS.

Name.	Location.	Av. No. of instructors.	Remarks.
High	Montgomery street	20	In High School building.
Allston School-house	Cambridge street, Allston	3	
Anderson street	Ward-room, Sharp School-house	3	
Bigelow School-house	Fourth street, South Boston	9	
Comins "	Tremont street, Roxbury	8	
Dearborn "	Dearborn place, Roxbury	6	
Eliot "	North Bennet street	10	
Franklin "	Ringgold street	11	
Lincoln "	Broadway, South Boston	5	
Lyman "	Paris street, East Boston	8	
Quincy "	Tyler street	8	
Sherwin "	Madison square, Roxbury	3	Established for instruction in English to German pupils.
Warren "	Summer street, Charlestown	9	
Warrenton street	Warren-street Chapel	4	
Wells School-house	Blossom street	8	

EVENING DRAWING SCHOOLS.

Name.	Location.	Av. No. of instructors.	Remarks.
Charlestown	City Hall	4	
East Boston	Stevenson's Block, Central square	4	Hired at an expense of $940 per annum.
Roxbury	Municipal Court building	4	
Tennyson street	Starr King School-house	6	
Warren avenue	Latin School-house	5	

EVENING SCHOOLS.

Salaries of Instructors	$26,261 00
Expenses for Books, Stationery, etc. . .	946 62
Janitors	1,479 13
Fuel and Gas	2,368 32
	$31,055 07

Public Building Department.

Repairs, Furniture, etc.	1,327 69
Total expense for Evening Schools .	$32,382 76

Average number belonging, including the High School, 3,423.

Average number of instructors, 115.

Average cost of each pupil for the time, $9.46.

EVENING DRAWING SCHOOLS.

Salaries of Instructors . .	$9,069 00	
Drawing Materials, Stationery, Models, Boards, etc. . .	643 41	
Janitors	261 13	
Fuel and Gas . . .	970 79	
	$10,944 33	

Public Building Department.

Repairs, Furniture, etc. .	$1,409 17	
Total expense for Evening Drawing Schools,		$12,353 50

Number of instructors, 23.

Average number belonging, 570.

Average cost of each pupil for the time, $21.67.

Aggregate expense for all Evening Schools .	$44,736 26

EXPENDITURES FOR OFFICERS AND SPECIAL INSTRUCTORS.

Salaries paid Superintendent, Supervisors, Secretary, Auditing Clerk, Assistant Clerks and Messengers	$36,883 00
Salaries paid sixteen Truant-officers . .	18,856 67
" " five Music Instructors . .	13,200 00
Salary paid Drawing Director . . .	3,000 00
" " Instructor in Hygiene . .	3,000 00
Salaries paid Military Instructor and Armorer	2,160 00
Stationery and Record-Books for School Committee and Officers, and office expenses	293 51
Fuel, Gas, and Water	421 99
Total	$77,815 17

INCIDENTAL EXPENSES.

These expenditures are made for objects not chargeable to any particular school, and consist chiefly of expenses for delivering supplies, printing, advertising, festival, board of horse, carriage-hire, tuning of pianos, and other small items: —

Annual Festival	$1,821 18
Board of horse, with shoeing expenses and sundry repairs of vehicles and harness .	509 60
Carriage-hire	8 00
Advertising	238 47
Census of School Children . . .	975 00
Printing Census-Books	24 50
Printing, Printing-Stock, Binding, and Postage	4,929 81
Diplomas	1,135 84
Extra Labor and Clerk-hire . . .	85 50
Military Drill, Sundry Repairs, and Transportation Expenses of Instructor . .	230 65
Teaming and Expressage, including fares .	48 55

Tuning and repairing pianos	$1,232 50
Expenses, delivering supplies for the year	4,820 01
Subscriptions to newspapers	22 75
District Telegraph, rent of Telephone	124 30
Rent of halls for Exhibitions	25 00
Messenger expenses, Car and Ferry Tickets,	497 79
Refreshments, School Committee	18 75
Cases for supplies	1 75
Twine, Frames, sundry small repairs, etc.	58 68
Sundry small items	5 00
Total	$16,813 63

SPECIAL EXPENDITURES BY PUBLIC BUILDING AND CITY ARCHITECT'S DEPARTMENTS.

Grammar School-house, Bennett District	$6,043 38
Grammar School-house, Bennett District, furnishing	1,703 33
Grammar School-house, Comins District	35,546 03
Grammar School-house, Comins District, furnishing	5,991 48
Grammar School-house, Dudley street	47,501 58
Grammar School-house, Minot District	6,367 21
Hancock School-house, heating, etc.	7,921 33
Primary School-house, Blossom street	15,334 85
Primary School-house, Blossom street, furnishing	115 65
Primary School-house, Harrison avenue, furnishing	535 77
Primary School-house, Prescott District	6,548 17
Total special expenditures	$133,608 78
Income, account special expenditures	11,285 05
Net special expenditures, Public Building and City Architect's Departments,	$122,323 73

RECAPITULATION.

TOTAL EXPENDITURES.

School Committee.

High Schools, per detailed statement,		$199,167 77
Grammar Schools, " "		755,074 35
Primary Schools, " "		383,678 41
Horace Mann School " "		8,812 86
Manual Training Schools " "		1,982 39
Evening Schools, " "		31,055 07
Evening Drawing Schools, " "		10,944 33
Officers and Special Instructors, per detailed statement		77,815 17
Incidentals, per detailed statement		16,813 63
		$1,485,343 98
Less stock delivered during the year to schools, purchased previous to April 1, 1886		1,403 40
		$1,483,940 58
From Income Gibson Fund, expended for Dorchester Schools		1,402 71
Gross Expenditure		$1,485,343 29
Less Income		33,388 28
Net Expenditure, School Committee		$1,451,955 01

Public Building Department.

High Schools	$13,516 92	
Grammar Schools	71,857 73	
Primary "	68,106 47	
Horace Mann School	253 03	
Manual Training Schools	556 41	
Evening Schools	1,327 69	
Carried forward,	$155,618 25	$1,451,955 01

Brought forward,	$155,618 25	$1,451,955 01
Evening Drawing Schools,	1,409 17	
Expenses not chargeable to any particular school .	6,083 96	
Gross Expenditure .	$163,111 38	
Less Income . .	295 92	
Net expenditure, Building Department,		162,815 46
Total ordinary expenditure . .		$1,614,770 47

SPECIAL EXPENDITURES.

Public Building and City Architect's Departments.

Grammar Schools, new buildings . . .	$103,153 01	
Primary Schools, new buildings . . .	22,534 44	
Hancock School, heating .	7,921 33	
Total . . .	$133,608 78	
Less Income . .	11,285 05	
Net special expenditure		122,323 73
Net expenditure for the Public Schools,		$1,737,094 20

INCOME.

School Committee.

From State, for Deaf-Mute Scholars . .	$6,743 90
non-residents	7,850 12
Gibson Fund	1,006 00
Smith "	386 00
Stoughton Fund	212 00
other sources	16,918 75
Sale of books, day schools . .	101 13
rebate, Boston Gas-Light Company .	170 38
Total Income School Committee . .	$33,388 28

Public Building Department.

Amount received from rents collected	$102 00	
Amount received from sale of land	44 00	
Amount received from overpayment of Sewer Assessment	149 92	
		$295 92

Received on Special Expenditures.

Interest	$1,049 05	
Revenue derived from sale of school-houses	10,236 00	
		$11,285 05

SCHOOLS. — ESTIMATES, 1887–88.

School Committee,
Office of Accounts, February 8, 1887.

James H. Dodge, Esq., *City Auditor:* —

Dear Sir, — The Committee on Accounts of the School Committee herewith transmit to you estimates of the amount which will be required to meet the expenses of the Public Schools for the financial year commencing on the first day of May, 1887, and ending April 30, 1888, exclusive of the expenses for furniture, repairs, alterations, and the building of school-houses.

Very respectfully yours,

WILLIAM C. WILLIAMSON,
Chairman Com. on Accounts, School Committee.

SALARIES OF INSTRUCTORS.

First Grade.

6	Head Masters	at	$3,780	$22,680	
2	Masters	"	3,168	6,336	
19	"	"	2,880	54,720	
2	Junior Masters	"	2,736	5,472	
2	" "	"	1,872	3,744	
3	" "	"	1,584	4,752	
1	" Master	"	1,440	1,440	
3	" Masters	"	1,296	3,888	
3	" "	"	1,152	3,456	
					$106,488

Second Grade.

38	Masters	at	$2,880	$109,440	
1	Master	"	2,820	2,820	
4	Masters	"	2,760	11,040	
2	"	"	2,700	5,400	
4	"	"	2,640	10,560	
1	Sub-Master	"	2,496	2,496	
1	" "	"	2,376	2,376	
13	Sub-Masters	"	2,280	29,640	
1	Sub-Master	"	2,220	2,220	
5	" Masters	"	2,160	10,800	
1	" "	"	2,100	2,100	
3	" "	"	1,980	5,940	
2	" "	"	1,920	3,840	
1	" "	"	1,860	1,860	
4	" "	"	1,800	7,200	
3	" "	"	1,740	5,220	
4	" "	"	1,680	6,720	
1	" "	"	1,620	1,620	
3	" "	"	1,560	4,680	
					225,972

Third Grade.

1	Assistant Principal	at	$1,800	$1,800	
4	First Assistants	"	1,620	6,480	
1	Second Assistant	"	1,380	1,380	
1	" "	"	1,236	1,236	
9	Assistants	"	1,380	12,420	
1	"	"	1,332	1,332	
2	"	"	1,236	2,472	
	Carried forward			$27,120	$332,460

Brought forward		$27,120	$332,460
10 Assistants	at $1,188	11,880	
2 "	" 1,140	2,280	
3 "	" 1,092	3,276	
1 "	" 1,044	1,044	
4 "	" 996	3,984	
3 "	" 900	2,700	
7 "	" 852	5,964	
5 "	" 804	4,020	
2 "	" 756	1,512	
		———	63,780

Fourth Grade.

1 First Assistant	$1,380	$1,380	
59 " Assistants	1,080	63,720	
1 " "	1,044	1,044	
3 " "	1,008	3,024	
5 " "	972	4,860	
4 " "	936	3,744	
77 Second Assistants . . .	816	62,832	
9 " " . . .	804	7,236	
10 " " . . .	792	7,920	
9 " " . . .	780	7,020	
15 " " . . .	768	11,520	
270 Third Assistants . . .	744	200,880	
14 " " . . .	696	9,744	
28 " " . . .	648	18,144	
23 " " . . .	600	13,800	
20 " " . . .	552	11,040	
21 " " . . .	504	10,584	
18 " " . . .	456	8,208	
283 Fourth Assistants . . .	744	210,552	
32 " " . . .	696	22,272	
30 " " . . .	648	19,440	
23 " " . . .	600	13,800	
22 " " . . .	552	12,144	
24 " " . . .	504	12,096	
12 " " . . .	456	5.472	
30 Temporary Teachers, 50 days .		2,790	
30 Special Assistants, 50 days .		1,500	
		———	746,766
Carried forward			$1,143,006

Brought forward		$1,143,006
Special Grade.		
Special Teacher of Illustrative Drawing, Penmanship, etc., Normal School		828
Sewing: —		
29 Instructors; 217 Divisions		15,804
High Schools: —		
Director of Modern Languages . . .	$3,000	
2 Assistants	2,000	
		5,000
Deaf-mutes: —		
1 Principal	$1,800	
8 Assistants	6,500	
		8,300
Music: —		
1 Instructor, High Schools	$2,640	
4 Instructors, Grammar and Primary Schools,	10,560	
		13,200
Drawing: —		
Director		3,000
Hygiene: —		
1 Instructor		3,000
Chemistry: —		
Girls' High, 1 Instructor	$1,380	
Girls' High, 1 Laboratory Assistant . .	744	
		2,124
Physical Culture: —		
Girls' High, 1 Instructor	$960	
Girls' Latin, 1 Instructor	492	
		1,452
Military Drill: —		
Instructor	$1,500	
Armorer	660	
		2,160
Manual Training Schools: —		
Instructors		6,000
Evening High School: —		
Head-master, 22 weeks	$880	
20 Assistants, 22 weeks	8,800	
Clerk	440	
		10,120
Carried forward		$1,213,994

Brought forward		$1,213,994
Evening Elementary Schools: —		
13 Principals, 22 weeks	$5,720	
80 Assistants, 22 weeks	13,200	
		18,920
Evening Drawing Schools: —		
2 Masters, 66 evenings	$1,320	
4 Head Assistants, 66 evenings . . .	1,584	
17 Assistants, 66 evenings	5,610	
5 Curators	660	
		9,174
Total for instructors		$1,242,088

SALARIES OF OFFICERS.

Superintendent	$4,200
6 Supervisors at $3,780	22,680
Secretary	2,880
Auditing Clerk	2,880
Assistants	2,320
Copyist	1,000
Assistant in offices School Department	600
Messengers	1,700
16 Truant-Officers	19,500
Total for Officers	$57,760

INCIDENTALS.

Text-books, Reference books Exchange of Books	$45,000
Books for Supplementary Reading	2,500
Annual Festival	2,000
Globes, Maps, and Charts	1,100
Musical Expenses: — Instruments Repairs and Covers	2,000
Printing, and stock used for same	5,800
Philosophical, Chemical, and Mathematical Apparatus and Supplies	2,200
School Census	1,100
Carried forward	$61,700

Brought forward	$61,700
Stationery, Drawing-Materials, and Record-Books	12,500
Slates, Diplomas, Racks, Pencils, Erasers, etc.	3,100
Advertising	300
Military Drill: —	
Arms, Repairs, etc.	350
Fuel, Gas, and Water	66,000
Removing snow from school-house yards	4,000
Salaries of Janitors	106,000
Janitors', and other supplies	3,300
Cost of work for delivering supplies, including salaries, expenses of teaming, repairs, repairing apparatus, etc.,	5,250
Cost of supplies for Manual Training Schools	2,000
Miscellaneous, including sewing-materials, teaming, extra labor, horse and carriage expenses, postage, car and ferry tickets, receiving coal, and sundry items	2,500
Total for Incidentals	$267,000

RECAPITULATION.

Salaries for Instructors	$1,242,088
Salaries of Officers	57,760
Incidentals	267,000
	$1,566,848

INCOME.

Non-residents, State and City	$13,000
Trust-Funds, and other sources	14,000
	$27,000

The estimated amount required for salaries of instructors the coming year is $1,242,088.

The following statement presents the amounts paid for this item for four years and ten months, and the estimated amount required for the remaining two months of the present year, showing the comparative salaries of instructors for five years:

1882–83		$1,123,154 90
1883–84		1,147,863 23
1884–85		1,170,751 71
1885–86		1,192,493 29
1886–87 ten months	$1,002,792 42	
estimate for two months	211,000 00	
		1,213,792 42

It will be noticed from the above statement that there is an average yearly increase in salaries of instructors of nearly $23.000, which is necessitated by the yearly natural increase in the number of pupils.

In addition to the increased amount necessary under ordinary circumstances, an increase of about $5,000 is requested in addition to what was spent during the past year, to meet the demands of the Committee on Manual Training, who intend to open additional schools of that character during the coming year.

The opening of the Hugh O'Brien School, within a few months, will require an additional expenditure; and the increase of $28,295.58 for salaries of instructors above the amount spent this year will undoubtedly be needed for the purpose.

The amount asked for salaries of officers is $57,760, — a decrease, as compared with the amount granted last year, of $1,240.

Under the head of school expenses the following explanation is offered as to the necessity of granting the amounts requested.

The city is obliged by law to furnish free books and supplies to all pupils. The amount requested for text-books, drawing-material, and stationery is $57,500, which is less, on a basis of 63,000 pupils, than 92 cents per pupil. This cannot be thought a large amount, considering the fact that many pupils in the High Schools require books to the value of over fifteen dollars, in addition to the cost of all other supplies, to carry on their studies.

The sum of $66,000 is requested for fuel, gas, and water. Gas and water will cost not far from $10,000, leaving $56,000 for coal and wood. The amount of fuel likely to be consumed the coming year will be about 12,000 tons of coal and 200 cords of wood; and if the price of coal should be above $4.50 per ton, and the estimated amount consumed, the sum requested would not be sufficient. The school-houses recently acquired use a much larger amount of fuel, gas, and water than do the older buildings on account of improved methods of ventilation.

The amount required for salaries of janitors is $106,000. The amount expended this year will be about $89,500, — an increase of about $3,000 over that of the past year, caused principally by the occupation of new buildings, and additional work required in the other buildings.

The increase next year from the same cause will make salaries of janitors on the present basis about $92,500.

A year ago the School Committee voted to increase these salaries to the extent of $4,500; but they did not put that action into effect, owing to the reduction in the appropriation. It is desired this year to increase salaries to that amount, which will make the sum needed $97,000.

Again, it is proposed to pay the janitors weekly to conform to the

manner of payment of similar employés in other departments; and the $97,000 before stated will only pay them to March 20, 1888; and, as at least five weekly payments must be made between that date and the close of the financial year, an additional appropriation of at least $9,000 will be needed to meet that contingency, making the total amount required $106,000, as above stated.

The committee have included an estimate for clearing the snow from school-house yards, in accordance with a communication from His Honor the Mayor, and the opinion of the Corporation Counsel, that it was the duty of the School Board to do this work. The amount requested is $4000, the committee believing that sum may answer for experiment during the first year.

Your committee are of the opinion that a careful examination of the other items under the head of school expenses will alone be sufficient to guarantee the granting of the full amounts requested.

The committee having charge of the preparation of these estimates have considered every item very carefully, and they are of the opinion that every dollar asked for is needed, and should be granted. If the appropriating power thinks otherwise, the School Board respectfully request that they may be informed what item or items can be reduced.

The Committee on Accounts respectfully request that the Auditor of Accounts may be authorized to transfer unexpended balances from any one of the appropriations named to any other appropriation.

For the Committee on Accounts,

WM. C. WILLIAMSON,

Chairman.

For the Committee on Supplies,

NAHUM CHAPIN,

Chairman.

These estimates were referred to the Committee on Schools and School-houses, who represent the School Committee in the City Council; and they recommended that the estimates as requested by the School Committee be granted.

After a reference of the subject to several committees of the City Council, the following-named sum was reported by the Committee on Appropriations and allowed by the City Council: —

School Instructors	$1,242,088 00
School Expenses, School Committee . .	240,000 00
Salaries of Officers " " . .	57,760 00
Total amount granted	$1,539,848 00

With the following provision : —

The City Auditor is hereby authorized to transfer from Salaries of Instructors, Salaries of Officers, School Committee, or School Expenses, School Committee, such unexpended balances as may be needed to make good any deficiency that may occur in either of the three named appropriations.

The above amount, included in the appropriation bill, was approved by the Mayor April 29, 1887, and passed to the credit of the School Committee.

SCHOOL DOCUMENT NO. 7—1887.

ARITHMETIC

IN THE

PUBLIC SCHOOLS.

REMARKS BY ELLIS PETERSON, SUPERVISOR OF SCHOOLS,
BEFORE THE SCHOOL COMMITTEE,

MAY 10, 1887.

BOSTON:
ROCKWELL AND CHURCHILL, CITY PRINTERS,
No. 39 ARCH STREET.
1887.

In School Committee,
Boston, May 10, 1887.

Ordered to be printed.

Attest:

PHINEAS BATES,
Secretary.

REMARKS BY ELLIS PETERSON, SUPERVISOR OF SCHOOLS, ON ARITHMETIC IN THE PUBLIC SCHOOLS.

Mr. President and Gentlemen: — For eleven years I have observed the teaching of arithmetic in the Boston public schools. During that time I have gained some clear and distinct ideas of the aims, methods, and results of the instruction in that subject; and have, therefore ventured — much against my natural inclination — to ask your attention to certain facts and considerations that may aid you in arriving at a right conclusion upon the subject before you. I speak only for myself, and not for the Board of Supervisors.

The main question before the School Board is this: Whether the average time given to arithmetic in the primary and grammar schools shall be reduced from $4\frac{1}{2}$ hours a week to $3\frac{1}{2}$ hours; and whether, in the primary schools, the time shall be reduced from $3\frac{1}{2}$ hours a week in the third class to not more than 2 hours, and from 4 hours a week in the second class, and $4\frac{1}{2}$ hours in the first class to not more than $3\frac{1}{2}$ hours in each of the two classes.

It is plain that the attempt to do arithmetical work of the same kind, quantity, and difficulty, in a less time than is now assigned to it in the course of study, would, under present circumstances and conditions, prove a failure.

For five years, viz., from 1878 to 1883, the schools tried the experiment. The time for arithmetic was found insufficient; and, in 1883, the Board of Supervisors recommended an increase of time, and the School Board voted it. Why then is it now proposed to make a large reduction of time in the primary schools, *i.e.*, to take away $1\frac{1}{2}$ hours a week from

the time given to arithmetic by the third class, $\frac{1}{2}$ an hour by the second class, and 1 hour by the first class?

1. Are pupils in our primary schools required to go over too much ground in number? First-year pupils, from 5 to 7 years old, study numbers from 1 to 10, using no number larger than 10. Second-year pupils, from 6 to 8 years old, study numbers from 1 to 20 the first half year, and, after forming notions of numbers from 20 to 100, carefully study numbers from 1 to 60 the last half year. Third-year pupils, from 7 to 9 years old or older, study numbers at first from 1 to 144, and afterwards add and subtract numbers from 1 to 1000, no sum or minuend being larger than 1000, and also do some simple work in multiplication and division, no product or dividend being larger than 1000. In brief, the number-work for the first year and a half is from 1 to 20, and for the last year and a half is in great part from 1 to 144, and in small part from 1 to 1000. This cannot be regarded as too much ground, provided the *kind* of work is such as children should do, and provided the work is properly graded as to difficulty.

2. Should the *kind* of number-work now done in the primary schools be so changed as to take less time for doing it? The kind of number-work must be largely determined by the purposes of such work. It has a twofold purpose: (1) to give a knowledge of the elementary facts and simple processes of number, in preparation for the acquisition of a more extended knowledge; and (2) to help form the habit of right thinking. The knowledge to be acquired is *real* knowledge. It is not a knowledge of mere names or figures, empty of ideas, nor a knowledge of mere formulas, empty of thought, nor a knowledge of processes that begin and end in abstractions. It is a knowledge of numbered objects, — a knowledge that can be exactly and readily expressed by words or figures, and that can be intelligently used in accomplishing a definite and understood purpose. Next, the habit of right

thinking, which the number-work helps to form, is the habit of thinking to some purpose, step by step, straight to the end. Whether this thinking is intuitive or reflective; whether it consist mainly of observation, or of comparison, or of inference, is immaterial, provided the thinking be natural and unforced. It is one of the logical quibbles of a superficial modern philosophy that it is unnatural for children to reason. It is obvious that they cannot help reasoning if they think; and who denies that they think about what concerns and interests them; about what they see and hear and feel; about their work and play? They do not think continuously or deeply, and they make many wrong inferences and inductions; but they are fond of observing and imagining, and of drawing conclusions from what they observe and imagine. They reason, too, from one case or from several similar cases to another similar case, and they draw, after repeated observations, general conclusions.

It should, however, be distinctly stated that pupils in our primary schools rarely, if ever, express formally in words their reasoning processes in number. Occasionally, their common-sense, their mother-wit, is appealed to in number-lessons as it is appealed to on the play-ground, and they naturally express their reasonings in words. Their reasoning in number-lessons as in observation-lessons is usually an unconscious mental act, occasioned, directed, and limited by the teacher. It would be well if the term *thinking* were used instead of *reasoning;* for thus would be avoided those logical distinctions that seem to be almost as confusing to the philosophers themselves as to others.

And now we come to the questions: How is this elementary knowledge of numbers to be acquired? And how is the training in right thinking to be begun? Fortunately, these two objects can be accomplished at the same time by the use of the natural or inductive method of teaching as opposed to the logical or deductive method; in other words, by the use of the

objective method as opposed to what is falsely called the abstract method, and is properly called the mechanical. It would take up too much of your time to describe in detail the method as it is used in the schools. Briefly, I may say that the little children gradually and slowly form ideas of numbers of objects arranged in small groups; that they associate the names with the numbers of objects in groups so that the names and the ideas of numbers recall each other; that they combine and separate groups of objects in an orderly manner, and observe and express in simple language the processes and results; and, finally, that the simple language often heard and used recalls the ideas, the processes, and the results. These ideas, processes, and results are often and repeatedly associated with absent objects referred to by name; and, in time, figures are used instead of names, and the exercises with numbered objects are repeated until the figures, the processes with figures, and the results in figures seem as real and familiar to the children as the original exercises with objects.

This is an outline of the objective or natural method of teaching children numbers. Notice (1) that they get a real knowledge of numbers and of their relations and that they get it through concrete objects, gradually, slowly, inductively; (2) that this knowledge is fixed in the mind by *using* it, and that the more the pupils use it the more expert and exact they become; (3) that it introduces them gradually and almost imperceptibly to the genuine and strength-giving process of abstraction, — a process as far removed from that which goes by the same name in the schools as the top of Olympus is from the Stygian shades; (4) that the quick automatic action of the mind in *real* number-work is the result of often-repeated mental acts; and (5) that the practical problems which are given to pupils for solution exercise and test their ability to use numbers for reaching practical ends, and also train pupils to right thinking as no other exercises can.

It may be thought that the slow work with objects during the first year an a half, that the pains taken by the teacher to make every pupil understand each elementary fact and to lodge it in his mind, and that the solution of many practical problems must not only take up a good deal of time, but also must form a slow habit of mind, — a habit that prevents pupils from doing quick work in numbers. This is partly true. All permanently good work in education is slow, and even its beginnings require the expenditure of much time and labor. But it is not true that real number-work, after it has made a fair degree of progress, need be slow or slowly expressed. Even near the close of the first year in the primary school, a reasonable degree of rapidity may be attained in simple concrete work without hurry or worry; and, later on, after daily practice, the names of concrete numbers may at once suggest ideas, and the related ideas, without coming into consciousness, may instantaneously suggest correct results.

Another false notion is worthy of your attention on account of the fallacies it has propagated. It is this: that the solution of practical problems gives little or no practice in numerical operations. This is true of some practical problems, especially of those which are included in mental arithmetic, which is, in my opinion, the best part of arithmetic. But this is an accidental property of practical problems in written arithmetic; and the opposite is more likely to be true of them. What problem, for example, is more practical than a monthly provision bill? and yet its numerical length is — to use an inaccurate phrase of Sir William Hamilton — in the inverse ratio to the thought required for its solution. The practical written problems given to pupils in primary schools require them to think of what they are to find and how they are to find it, — whether by adding, subtracting, multiplying, or dividing, — and, finally, to do the necessary ciphering. Thus pupils begin in a simple way to think of

ends and means, and to adapt means to ends in numerical work.

I have tried to indicate the *kind* of number-work done in primary schools. I believe it is intelligent, healthful, and educational, and that it cannot be done, at least for some years to come, in a less time than is now given to it.

3. There remains to be briefly considered the question, whether there are any difficulties, general or special, which, if removed, would enable you to make any considerable reduction in the time given to number-work. The plan of the number-work in the primary schools is simple. It requires pupils to take short steps at the start, and somewhat longer steps as they advance.

Pupils of average ability can, if they attend school regularly, accomplish the work without making any extraordinary effort. Of course, they meet some difficulties, not such as discourage but such as give zest to the work, and demand healthful effort.

The special difficulties that have been mentioned during this discussion are few and small. One is the technical application of numbers to coins, measures, and weights. There is a double purpose in requiring instruction in these common units: (1) to give, through observation and use, greater familiarity and exactness to the knowledge of these units; and (2) to impress, by means of this familiarity, the facts and uses of number on the minds of pupils. As terms, *cent*, *quart*, *foot*, *day*, *pound*, and the names of the other familiar household units of value, measure, and weight are as technical as the terms, *button*, *fire-shovel*, *broom*, and *clock*, of which little boys and girls have pretty clear and distinct notions. As objects, they are observed, compared, and used in the class-room by the pupils themselves. In play, under the direction of their teacher, they buy and sell goods, and reckon and pay in coins. They measure water in pints, quarts, and gallons, and also nuts, grain, or saw-dust by pints,

quarts, and pecks. They draw lines an inch or more long, on slates or in drawing-books; they find the length and width of desk, platform, and floor in feet and inches, and measure strips of paper in yards and inches. They weigh with pound weights and ounce weights. They count the number of days in a week and the number of calendar months in a year, and with the help of the teacher and clock they discover the number of hours in a day and the number of minutes in an hour. What more interesting, useful, and suitable exercises in arithmetic for primary pupils than these! The trouble is not that there is too much of this work, but that there is too little of it. The difficulty is not in the technical terms, but in the technical teacher who uses these terms and who tries to drive them into the verbal memory of the child. Said Prof. De Morgan, an eminent English mathematician, "A child should be provided with a measure, a foot long, and should be shown how to measure the various lengths which fall in his way, provided they be under ten feet. The child should be encouraged to guess at various lengths before measuring them. This exercise, which, judiciously managed, would be an amusement, is admirably calculated to give just notions of the relation of space (a thing sadly neglected in modern education), at the same time that it exercises the habit of counting." This was the opinion of a thorough student of education. He was talking of exercises suitable for children in the very first stage of their instruction in number.

The second difficulty has not been caused by the plan of number-work, but has been occasioned by a few difficult questions in the examinations for promotion. No trouble — so far as I can learn — has been experienced in the examination in mental arithmetic. That seems to have fairly represented the instruction in the schools; and the standard set up has been neither so high as to cause over-work or anxiety, nor so low as to occasion a lack of healthful effort. A

few problems in the examination in written arithmetic have been found too difficult for the majority of the pupils in the first classes; and the Board of Supervisors has considered it undesirable to repeat them. But these difficult problems were accidental, and did not affect the integrity of the examination; and, in the future, when the instruction is better in certain directions, may, with the approval of the Committee on Examinations, be again incorporated in an examination. It seems, therefore, that the staple work of the first classes can remain substantially the same as now, and that as much time will be required for it in the future as in the past.

In confirmation of my judgment that the condition of arithmetic in the primary schools does not warrant any material change in the quantity, kind, or difficulty of work in that subject, and that the same time should be given to it as now, allow me to present the results of the last January examination for promotion to the grammar schools.

Of the 756 pupils examined in arithmetic for promotion, 700 pupils, or $92\frac{1}{2}$ per cent., passed the examination in mental arithmetic, in the opinion of their teachers and principals, and 688 pupils, or 91 per cent., in written arithmetic; 602 pupils, or $79\frac{1}{2}$ per cent., passed a good or excellent examination in mental arithmetic, and 566 pupils, or 75 per cent., in written arithmetic; 420 pupils, or $55\frac{1}{2}$ per cent., passed an excellent examination in mental arithmetic, and 433 pupils, or 57 per cent., in written arithmetic. If the standard of that examination was high enough, then we must conclude that the results were solidly good; and, if the instruction continue to improve in purpose and method, and the time given to number-work continue the same, we have a right to expect that the weak places will be gradually made strong, and that at some distant Utopian day the number-work will be done so well and so quickly in the primary schools that the teachers themselves will cry aloud for a reduction of time devoted to that subject.

Until that day, I hope the School Board will refuse to diminish the time for number-work in primary schools. One simple fact and a simple problem in division are, without an appeal to first principles, sufficient to settle the question. The fact is this, that, in nearly every primary school, each class in each class-room has two or more divisions, or sub-divisions, differing in qualifications; and that, for the purpose of instruction, these sub-divisions in the third class are divided into groups. Nominally, the time given each day to number-work in the third class is 42 minutes. Really, each group of pupils does not, on the average, get more than 10 or 15 minutes a day. Change the time, as it is proposed, to 24 minutes a day, and each group of the third class will receive not more than 6 or 8 minutes a day. Although in the second and first classes the pupils are old enough to do slate-work while the teacher is busy elsewhere, yet, as this work must be carefully inspected by her, she finds that, after giving the necessary instruction and drill, she has but a small margin of time left for the inspection and correction of slate-work. To reduce this time even a little would be likely to result in a less degree of accuracy in the pupils' work.

Thus, Mr. President and gentlemen, I have endeavored to show that it is unnecessary and undesirable to reduce the time given to arithmetic, whether we consider the quantity, quality, or difficulty of the work, or the economical division of it in the primary schools.

And now, with your approval and your generous indulgence, I propose to present to you some considerations on the proposed reduction of time now given to arithmetical study and work in the grammar schools.

First, it is proposed to lessen the time for arithmetic by lessening the number of subjects of arithmetical study. Among these nine subjects which it is proposed to omit, are equation of payments, exchange, similar surfaces, and cube

root, no one of which is required. As these are optional subjects of study, no questions under them are given in the diploma examinations. If a principal has time to take up these subjects with his first class, he decides whether to spend the time on these or on something else. Of the five remaining subjects, two, viz., compound proportion, as such, and compound partnership, are studied in but a few of the schools. Problems under the former are solved in most of the schools by analysis. I know of no school that formally studies compound partnership. If a problem is occasionally given out under this subject, it is probably for the purpose of exercising the common-sense of pupils upon a subject that is entirely within their comprehension. Both of these subjects could be omitted without saving any time worth mentioning, or — as the Board of Supervisors suggested — could be added to the optional list.

Three of the nine subjects remain to be considered, viz., the metric system, compound interest, and a part of mensuration, — subjects begun respectively by the third, the second, and the first classes. At first thought it would seem that at least the time given to the study of arithmetic during five or six weeks would be saved by omitting the study of the metric system. This is, however, not the case; for the study of the metric system furnishes the best possible review of decimal fractions, — a review that is needed, and that is usually made by the third class. It must also be noted that teachers instruct in other subjects with more vigor and point, because they have used and discussed with their pupils the real units of the metric system. The tonic effect of objective teaching upon teachers and pupils remains and helps to save time by causing more work to be done within a given time. For other reasons too, the time spent upon the metric system is well spent. Readers of scientific works and of travels need a knowledge of the metric system in order to understand what they read; and, although it is not a con-

clusive argument by itself, yet it has some weight, that a wide-spread knowledge of the metric system will hasten the day when it will be the legally recognized system of measures and weights in the United States. But there is a reason which, apart from all other reasons, is conclusive to me. The metric system is a *system* with its members perfect in themselves and perfectly arranged; a plural unit, simple, intelligible, complete. It is a perfect illustration of the decimal system of numbers. Think of how few examples of a compact, perfect system can be presented to our youth, and how their sense of completeness remains dormant from the lack of exercise; and do not, for the sake of saving a little time for something else, take away from them the one example they have and can comprehend of a perfect system.

Next, you are asked to take from the course of study compound interest, a time-honored subject. Two teachers in grammar schools told me that after their pupils had become familiar with simple interest, they could, within fifteen minutes make the same pupils understand the principle of compound interest. The rest of the work consists in ciphering in multiplication of decimal fractions. As this is ciphering for a purpose, it seems a reasonable sort of practice. At least, after pupils have studied compound interest, they can understand how and how rapidly their savings accumulate in the savings-bank. This subject is worthy of the little time devoted to it.

The last of the nine subjects is mensuration. It is not proposed to leave out of the course of study the mensuration of the triangle, parallelogram, and circle, the most common and useful of the geometrical surfaces. But you are asked to strike out the mensuration of the trapezoid and trapezium. After a pupil has learned to measure a triangle and a parallelogram, and to find their areas, he can, after a suggestion or two from his teacher, learn to measure and to find the area of a trapezium in two minutes and of a trapezoid in five

minutes. You are also asked to strike out the mensuration of all the solids mentioned in the course of study, viz, the prism, pyramid, cylinder, cone, and sphere, — solids familiar to the sight of pupils in primary schools, and fashioned from clay in some of these during the lessons on form. It takes the time of eight or ten recitations of the first classes to observe and measure these solids and to find their volumes and the areas of their surfaces. A teacher may, however, and frequently does unite with the work in mensuration a practical review of other subjects, *e.g.*, fractions and the metric system.

It is, therefore, true that a comparatively little time is used in teaching the mensuration of the five solids. But, even if thrice as much time were required, it would, in my opinion, be profitably spent. Indeed, no subject in the grammar-school course is better taught or exercises a better influence upon the minds of the pupils than this objective geometry. It must not be supposed for a moment that the work of the pupils consists in committing certain facts or rules to memory and of using or applying these in finding areas and volumes. This work would be of little or no service, except to give practice in ciphering, a mean use to put this noble study of geometry. The introductory work in mensuration consists (1) in convincing the pupils, or rather, in leading the pupils to convince themselves, not by mathematical demonstration, but by visible and tangible illustrations, that the proposition to be used is true; (2) in applying the truth of the proposition to a given case; (3) in making the necessary measurements; (4) in calculating the area or volume. It is evident that this is a useful exercise for all pupils, whether they are to enter high schools or not. But it is especially desirable for the large number that will not study geometry after leaving the grammar schools. In my opinion, they have a right to this much of practical geometry, whether it be properly regarded as a part of arithmetic or

not. From an educational point of view, it is especially desirable for them; for it exercises their minds in finding, conceiving, and connecting a series of truths — an exercise of great logical and practical value.

It seems, therefore, that the omission of all but two of the nine subjects would enable you to take only a small fraction of time from that which is now given to arithmetic in a majority of the grammar schools, and that the omission of these two subjects would probably be a serious loss to the schools without offering in return any adequate compensation.

Next, it is proposed to confine arithmetical work to small numbers and to simple subjects and processes. This limitation will affect only those schools and teachers that are guilty of excesses; and, if my observation is to be trusted, only a minority of the schools and teachers will be thus affected. For the last five years, I have not seen on the blackboard such a complex fraction as the one whose ugly features have been portrayed in this discussion. That caricature of an old practice would frighten the youth of to-day, who has no conception of the intricate ciphering which his great-grandfathers did. But, in parting with fractions that are too complex, and with numbers that are too large, and with numerical processes that are too long, this generation has lost something which a former generation may have possessed; for, as whittling by the Yankee exercised his hand, and presumably aided him in thinking and guessing, so the complicated ciphering, although seemingly of no use except to give accuracy and facility in numerical operations, may have introduced him to the properties of pure number, — properties much talked about now-a-days but only known to the philosophers.

I trust that the School Board will leave it to the good sense of the teachers to decide what sort of problems shall be given to their pupils. Complex fractions or their equiva-

lents must be sometimes used; large numbers, expressing, for example, the public debt, the fortunes of millionaires, and the transactions of money-kings must at least be read about. Therefore, while the staple work of pupils should be with small numbers, they should not be kept by any mechanical rule from forming some acquaintance with large numbers. As to complex fractions, the teachers need but one caution, viz., to use only such as are involved in the solution of practical problems. With such a guide as this, the excesses complained of would forever disappear. I believe that the majority of our teachers keep the size of numbers and the complexity of numerical operations within reasonable limits, and, therefore, that the proposed restriction would save time in only a minority of schools.

The third and last proposition is to lessen the difficulty of the practical problems to be solved by the pupils, and thus to reduce the time given to arithmetic. The problems used are taken, as a rule, from the authorized text-books, or are selected from other text-books, or are composed by the teachers themselves. The elementary text-book now used by the fifth and sixth classes contains only problems that are simple, properly graded, and within the comprehension of the majority of the pupils. The same is true of the text-book authorized for the four upper classes. There are, however, in the appendix of the latter book, — as there should be, — some problems that measure the strength of the strong pupils, — problems that do not indicate what *all* pupils should do and that are used at the discretion of the teacher. The problems that teachers select or prepare are, as a rule, not too difficult for average pupils. But in this selection and preparation, there are two obstacles that seem almost insurmountable. One is the immature or poor judgment of some teachers, and the other is the difficulty of getting problems suitable for the different stages of improvement and the different abilities of the pupils. Although

ours is a graded system of schools, yet in the same grade are found (1) pupils who have been promoted on account of age, and (2) pupils who, although good or excellent in geography, are poor scholars in arithmetic, or *vice versa*. If the teacher selects problems suitable for average pupils, some scholars must suffer. It happens, therefore, in some classes and schools — even where the judgment of the teachers is sound and unerring — that a few pupils try to solve problems that are too hard for them. This is an evil; but how shall you remedy it? Explanation by the teacher? There is too much of it already. The ear is now educated at the expense of the mind. By dividing a class into small groups and adapting the instruction in arithmetic to the different groups? There is not time enough for that. One way out of the evil is left, — a way which in my opinion would lead to an evil ten times worse. It is this: to make every problem so easy that even the weakest pupil can solve it. Of course, such a remedy would be absurd, and would be unjust and fatal to the majority of the pupils.

It cannot be denied that there are some teachers who occasionally give out problems far too difficult for average pupils. This evil is, however, not wide-spread, and is not without some accompanying compensations. A distinguished teacher of the violin includes among the exercises he gives his pupils some that he knows they cannot perform. They make the effort; they struggle and fail for the time being, but the effort they have made increases their power and skill in playing; and the next exercises seem easy by contrast, and are easily performed. There is a sound principle of philosophy illustrated by his method, — that in education, whether physical, mental, or moral, effort, spontaneous at first and volitional afterwards, is necessary to the increase of power; and that extraordinary effort, occasionally made, develops latent powers into conscious activity. Stuart Mill said, "*that a pupil from whom nothing is ever demanded*

which he cannot do never does all he can." The solid sense of the New England fathers caused their sons to study the knotty problems in Pike's arithmetic. The strength of mind and of purpose thus acquired has probably been the source of many blessings to this generation. Many of the subjects and difficulties that they mastered have been eliminated from text-books and courses of study; and now it is proposed to go further. Our pupils are to work, but they must work in Elysian fields; they are to gather knowledge, but they must gather it as they gather flowers; they are to climb, but they must climb where all obstacles are removed. It is well; but do not let us expect that they will grapple with the hard problems of life and solve them, nor that they will perform irksome duties with patience, vigor, and resolution.

It is doubtful, then, whether the majority of schools would be affected by the adoption of the proposition to strike all problems that are too difficult from the work in arithmetic.

It seems, therefore, that whether we consider the omission of subjects or the simplification of problems and processes, we cannot expect such a diminution of the work as to warrant a diminution of the time given to arithmetic. To strike one solid hour a week from the average of $4\frac{1}{2}$ hours, would, in my opinion, prevent teachers from giving thorough instruction in the principles and processes of arithmetic. I believe, too, that if our citizens were asked the question whether one-fifth of the school-time is too much to give to this cardinal and useful study, a large majority of them would answer: "No; give more time, rather than less."

I would stop here; but the foundation and superstructure of arithmetic have been assailed. Indeed, if arithmetic is what it has been represented to be, it should be razed to the ground. First, it has been defined as the art of numbers. It is this and more; it is the science and art of pure and concrete numbers. It has principles systematically arranged. Pupils, through examples, inductively arrive at a compre-

hension of those principles, and daily apply them in practice. Nor has arithmetic to do with pure numbers alone. By themselves they are myths to children, and can only be known through concretes. It is one thing for a child to *say* the names of pure numbers; it is an entirely different thing for him to *know* the pure numbers themselves. Thus it happens that, by good use and common use, arithmetic is concerned with concrete numbers whose names associated with ideas become, in elliptical form, an essential part of the language of daily life.

So, too, children's mental processes with numbers are suggested by concretes, and rarely by pure numbers alone. I have asked many a teacher to mention a single arithmetical problem in real life which does not involve concrete number, and no example has as yet been mentioned or can be mentioned. The boy buys a number of marbles with a number of cents; the girl sells so many bunches of flowers at so many cents a bunch; the laborer works a number of days at so many dollars a day; and the manufacturer makes so many pieces of cloth at a certain cost apiece. Thus the end of a real problem is, directly or indirectly, concrete.

What is called the numerical operation or process is only a means to the end, and, in its narrow sense, is only a part of the means. And yet it would be naturally inferred, from what has been said in this discussion, that arithmetic has to do with the numerical process only. This limitation of the function of arithmetic not only separates the numerical process from its use by substituting means for ends, but also disregards an essential part of the means, viz., the knowledge of the relations of numbers upon which reasoning in arithmetic depends, and without which the common and necessary numerical problems of daily life cannot be solved. To know which process to use is as necessary as to be able to use it; but unless the child knows the relations of numbers, — a knowledge which he acquires through con-

cretes, — he is without the means of knowing which process to use. The same, too, may be said of thinking or reasoning, which is, of course, an essential part of the means for accomplishing the ends of arithmetic. To omit thinking from arithmetic would be as fantastic as to leave Hamlet out of the play.

Therefore, arithmetic has to do (1) with ends, which, in real life, are concrete; (2) with the relations of numbers, which are gradually learned through concretes and are suggested to the mind by them; (3) with thinking or reasoning, which consists essentially in comparing each of two or more numbers with a third and in drawing a conclusion; and (4) with numerical operations or processes, which are at first performed consciously and slowly and, after much repetition, automatically in part and volitionally in part. Correct cipher-ing is, indeed, a *sine qua non* of arithmetical work; but so is an exact knowledge of the relations of numbers, and so are right thinking and sound reasoning. If correct cipher-ing be not used for accomplishing a definite and useful purpose; if the mind be not trained to perceive the relations of numbers and to think with numbers, the function of arithmetic will become, and ought to become, a mere cipher in the schools. As a science, arithmetic will then become a mockery; as an art, it will be a collection of mere processes, without unity or proportion. Arithmetic, thus robbed of essential properties, should be denominated in the course of study as an exercise in which the machine is at it its maximum power and the intellect at its minimum.

Second, arithmetic is accused of having become a compound of logic and arithmetic — a hybrid monster. It is said to be largely made up of exercises which are not exercises in arithmetic at all, or principally, but are exercises in logic. If this means that the solution of problems in arithmetic involves reasoning, and that this reasoning may be more or less difficult, it is true. Indeed, there can be no problems

in arithmetic whose solution does not involve reasoning; and this is true whether the problems are expressed in terms of pure or of concrete arithmetic. Exclude these problems from arithmetic, and three-fourths of the exercises in that subject "must go"; mental arithmetic, the very queen of elementary mathematics, must depart. Nothing will remain but names and notions of numbers and the bare facts and statements of truths, and, if we do not scrutinize the past, the mechanical processes of adding, subtracting, multiplying, and dividing. But there can be no use for these processes; for, to determine which to use for accomplishing a definite purpose must require reasoning. Hence, this monster, deprived of reasoning, becomes harmless and useless.

If, on the other hand, it is meant that, because reasoning is involved in arithmetical exercises, these are exercises in logic, then it must follow that all exercises which involve reasoning are exercises in logic; for example, exercises in grammar, geography, elementary science, and observation lessons, all of which involve probable reasoning. Indeed, most of the thinking done by young and old involves the comparison of judgments and the drawing of conclusions. If, therefore, experts in the science of mind are needed to prepare treatises in arithmetic, these experts should also prepare grammars and treatises in elementary science, and should conduct and regulate the reasoning of the youthful mind.

Now, gentlemen, these absurd conclusions are the result not of fallacious reasoning but of false premises. The young think and reason with numbers without being conscious of the mental process, as such. It is not to them an object of study or analysis. The radical error in the argument lies, however, in the definition of logic, which is not the art of reasoning, but, if we may trust Sir William Hamilton, is the science of the formal laws of thought as thought. To use the simpler language of President Porter, logic treats of the laws of right thinking.

Observe that logic treats of the *laws*, the *conditions*, the *theory* of right thinking. This subject is briefly considered in the Normal School, not as an essential part of psycholgy, but as intimately connected with the study of the intellect. If another year could be given there to preparation for teaching, it would indeed be well for its pupils thoroughly to study the laws of right thinking,— not, however, with special reference to reasoning, but with the purpose of discovering the conditions under which the mind must act and be trained in order to think clearly, distinctly, and unerringly. Were these pupils to study the laws of right reasoning, they would not confine themselves to the laws of demonstrative reasoning with which the study of mathematics is concerned; they would enter the larger field of probable reasoning, which is involved in the greater part of school exercises.

It would be undesirable to try to explore with the philosophers the mysteries that surround the "categories of thought" and "the necessary laws of the forms of thought as thought," in order to get a glimpse of that double-headed monster, arithmetic and logic. It is enough to know that he is a stranger in these parts; that he never enters a school-room. It is doubtful whether he ever enters college-halls: I believe he exists only in the imagination.

Pupils in our schools learn to think by thinking. When they think right they are unconsciously guided by the laws of right thinking. But these laws are not known to them as laws; are not expressed by words. Teachers do not formulate these laws or even allude to them, except when they appeal to the common-sense of their pupils. What one of you can recall, in your school-life, a single instance of a direct appeal to the rules concerning the "undistributed middle term" or the "illicit process of the major term?" Much less can you recall a direct appeal to the necessary laws of thought from which spring the rules of right thinking. And yet it is presumed that you were thinking or reasoning in the

greater part of your school exercises. The exercises in thinking which the solution of arithmetical problems gives are exercises in logic in the same sense as exercises in using language are exercises in grammar. Unconscious of the laws of language, children express ideas in the vernacular. Is it dangerous for them to use the English language because they are liable to make mistakes and do make mistakes? And must they, therefore, in the elementary stage of instruction, study the rules of syntax? Certainly, if the doctrine enunciated here in regard to arithmetical problems is sound. But it is not sound; it cannot bear the tests either of logic or of common-sense.

The modern method of teaching English is to give pupils exercises in the right use of English; and the modern method of teaching arithmetic is to give pupils exercises in correctly solving problems. The reasoning involved is an indispensable part of the solution; and the more exercise pupils have in correct solutions the more expert they become in the necessary reasoning. This is the whole matter in a nutshell. To call such an exercise an exercise in logic is to call running and eating exercises in the science of hygiene. Thus arithmetical problems, mental and written, must continue to be solved in the legitimate study of arithmetic. The good judgment of teachers, and not the metaphysical distinctions of philosophers, must guide the work and prevent it from becoming too difficult.

Not only has the study of arithmetic, as now pursued in the schools, been attacked, but also its value as a mental discipline has been called in question. This is not a practical question unless there are subjects in the course of study that have, exclusively, an educational value. It is true, I think, that a man of ordinary intelligence should be acquainted with every required arithmetical subject in the course of study; it is also true that all but two of these subjects have a direct bearing upon the practical concerns of life and that one of

the two is of so much educational value that it indirectly helps in the understanding of the practical subjects. Even Professor Stanley Hall, whose vision seems always sharp for detecting merits in German education and faults in American education, gives in outline a course of study nearly the same as ours. He may be pardoned for omitting the common weights and measures, because he probably assumes that those are studied here as the metric system is studied on the continent of Europe. He naturally omits to mention mensuration; for that, in Germany, is studied under geometry.

Now, it happens that the best methods of reaching the practical ends of arithmetic furnish the best mental training that arithmetic can give. It is obvious, then, that the educational value of arithmetical study need not be considered. It is true, however, that, apart from its practical utility, the educational value of the study of arithmetic warrants the prominent position it holds in the course of study. Sir William Hamilton, an enemy to the study of mathematics, has mentioned one great and peculiar merit of mathematical study, which alone should convince the School Board that arithmetic is needed for training to mental concentration this generation whose thoughts are scattered to the four winds. If the study of arithmetic will help form in them "the habit of continuous attention" and will help correct "the habit of mental distraction," it deserves to keep the time now given to it, not only for the sake of the mental concentration it gives, but also for the sake of all the studies pursued in the schools. Hamilton did not perceive the other merits of mathematical study, because — if we may believe John Stuart Mill — "he had no sufficient knowledge of the subject." "Even of pure mathematics he apparently knew little but the rudiments." Of applied mathematics "it is too much to say that he had even a superficial knowledge; there is not a line in his works which shows him to have had any knowledge at all. He had no conception of what the process is."

If we are to be guided by authority in this matter, we must look to some more competent authority than Hamilton. Mill, his great antagonist, whose scholarship in mathematics was undoubted, has expressed his opinions as follows: "Besides accustoming the student to demand complete proof, and to know when he has not obtained it, mathematical studies are of immense benefit to his education by habituating him to precision. It is one of the peculiar excellences of mathematical discipline, that the mathematician is never satisfied with an *à peu près*. He requires the *exact* truth." "Neither is it a small advantage of mathematical studies, even in their poorest and most meagre form, that they at least habituate the mind to resolve a train of reasoning into steps, and make sure of each step before advancing to another. If the practice of mathematical reasoning gives nothing else, it gives wariness of mind; it accustoms us to demand a sure footing." "That mathematics 'do not cultivate the power of generalization' will be admitted by no person of competent knowledge, except in a very qualified sense." Mill expresses his "amazement at the assertion that the student of mathematics exercises no mental faculty but that of continuous attention," and affirms that, "in every problem which the pupil himself solves, or theorem which he demonstrates, not having previously seen it solved or demonstrated, the same faculties are exercised, which, in their higher degrees, produce the greatest discoveries in geometry." Thus wrote an able and acute judge of mathematical study.

It would be easy to multiply high authorities who are in favor of mathematical study; but it is unnecessary. One will suffice, who as a philospher overtops Hamilton and leaves him in the shade. Said Immanuel Kant, in substance: "In teaching children, we should try to join gradually knowledge with practical power. Of all sciences, mathematics is the best for the purpose."

Before leaving this subject it should be distinctly stated

(1) that the term mathematics is not always used as including arithmetic, which to some minds means only calculation; and (2) that the prejudice of some against the study of mathematics arises from its limitation to the narrow field of computation and of memorizing rules, propositions, and even proofs, and, in brief, to the mechanics of mathematics. It is no wonder, then, that, with such a conception of mathematics, they look with contempt upon mathematical training, so called. They see only the anise and the cumin of the law, and are blind to its weightier matters. It was Prof. De Morgan, who, indignant with such a misuse of terms, wrote: "In justice to the instructors it should be said that they have not degraded the term mathematics by applying it to figure-work, miscalled arithmetic."

Finally, arithmetic is attacked by declaring that our pupils are inaccurate in the use of figures. It is said that the evidence in support of this accusation is overwhelming in character and amount. What is the reported evidence? (1) It is affirmed that technical schools receive from our high schools pupils, who, otherwise good in mathematics, make mistakes in the simplest arithmetical operations. It is not stated what proportion of these pupils make such mistakes, nor whether they make many or few mistakes. Until the evidence is more explicit it is the part of wisdom to give it no weight. That a few of these pupils are inaccurate in number-work, and that a few of them occasionally misspell a word or make a mistake in syntax, are probably true. Some of our ancestors in the golden age were inaccurate, and some of our posterity will be. I squarely deny that, as a rule, the graduates of our high schools are inaccurate in number-work. It was my duty to reëxamine, a few years ago, all the algebra papers of the first-year classes in our high schools. Not more than one mistake in ten on those papers was the result of inaccurate number-work. For the last six or eight years I have learned the results of the examinations of the

Latin School pupils for admission to Harvard College. The results in arithmetic, algebra, and geometry are much better than they were years ago, and indicate accurate and thorough work on the part of pupils.

(2) Principals of our high schools, it is said, allege that pupils come to them unable to add, substract, multiply, and divide, or even to count with accuracy. Again, it should be asked, what proportion of the pupils are so inaccurate? and whether all these benighted pupils came from the grammar schools? It is bad logic to characterize a whole school by what is true of only a minority of the pupils. It is also desirable to learn whether this evidence comes from all the principals or from only a part of them. It seems incredible to me that the eight principals could have given such evidence. If, however, there are pupils in the eight high schools who cannot accurately count, it must result from the imperfect training given in the primary schools nine or ten years ago, before the present course of study was adopted and the methods of instruction were changed. If these principals will visit the primary schools with me, I will convince them that the pupils of the first and second classes can count accurately, and that the majority of pupils in the first classes can accurately do simple work in numbers from 1 to 1000. Of course, pupils that have been promoted on account of age, or have been absent a good deal, cannot be expected to be accurate in number-work. Indeed, until the rule be established, — and I hope the day for it is far distant, — that no pupil shall enter a higher class or a high school unless he has passed a satisfactory examination in *every one* of his studies, there will be and must be, in spite of all theorizing, some pupils who will not be accurate in number-work.

(3) The grammar-school masters, it is declared, are obliged to admit that their graduates are inaccurate in number-work. Have these principals presented any statistics to show this? How many of these graduates make mistakes

as a rule? How many occasionally? How many are infallibly accurate? As a matter of curiosity, and for the sake of presenting a high standard of accuracy, they might add: How many teachers — not to more than mention principals — are infallibly accurate in numerical operations? Impressions are worth something; and, when prejudice does not, like a rock, disturb the flowing current of thought, are straws which show its direction.

Fortunately, we are not left in utter darkness as to how many grammar-school principals "are obliged" to admit the inaccuracy of their pupils in number-work. From the Appendix of School Document, No. 4, 1887, I have gathered from the chaos of opinions the following: That, of the fifty principals of grammar school, twenty-four, or less than one-half, think there is less accuracy than formerly in strictly arithmetical operations. The reasons given for the decrease in accuracy are various and contradictory, and are, for the most part, in strange contrast with the evidence given in this discussion, and seemingly coming from the whole body of grammar-school principals. If, Mr. President, you as a lawyer can untangle and formulate this evidence, and prove anything by it, you will be entitled to the lasting gratitude of all who are compelled to read it.

(4) It is asserted that employers of boys and girls who leave school to work complain bitterly that these cannot cipher with accuracy. In confirmation of this assertion, it is stated that several graduates of various high schools were examined by the president of a Boston bank, and that no one of them was able to add, without error, the column of figures given them. Such evidence as this should be taken with great caution. If trustworthy, it proves something in regard to certain boys; and, were it collected from many sources, scrutinized, and collated, it would be of great value. But this single story has a hap-hazard look. If such evidence as this be conclusive, it will be easy to prove that our

schools have, at the same time, every merit and every defect. I know, for example, some boys from our schools who are experts in ciphering. The late Mr. Kidder, the banker, once declared publicly that the graduates of high schools in his employ had uniformly done well the work assigned them. Shall we, therefore, conclude that all is perfection in our schools? Not if we retain our wits. Nor shall we conclude that those high-school boys who did not add correctly, could not add correctly. The fact was, probably, that they had not added a long column of figures for three or four years,— in other words, that they were out of practice, and needed some practice in order to revive the automatic action of the mind in adding.

And now, gentlemen, I propose to present to you, briefly, my evidence as to accuracy of numerical work:

(1) Eight or ten years ago, as I went through the grammar schools, I kept hearing the complaint, especially in the fifth and sixth classes, that the pupils did not know "the tables," that they kept making mistakes in the numerical work. The complaint was chronic. Now, this was not the fault of the primary teachers. They kept up an incessant drill on the "tables;" but the facts did not stick in the memory. It was for this reason that I laid it down as a principle that the simple numerical facts must be discovered by the aid of objects, and must be used until they are fixed in the mind. I believe that the numerical work done to-day in the primary schools is many times more intelligent than it was; and, if not meddled with, will produce much more accurate results. I refer you to the solidly good results of the last January examination for promotion to the grammar schools.

(2) The methods of work in some of the grammar schools are far from satisfactory to me. If the simple work begun so well in the primary schools were continued in the two lowest classes of the grammar schools, I have the strong-

est reasons for believing that the numerical work would be satisfactory. With mental arithmetic, and with carefully graded practical problems in written arithmetic, in the solution of which ciphering is used as a means, there is no good reason why our pupils may not be well trained in right thinking and in accuracy of numerical work.

(3) The present results as to accuracy are, in my opinion, better than were past results. This improvement has been indicated by the diploma examinations. I have carefully inspected these from year to year, and have observed a gradual improvement in the accuracy of numerical operations. Problems involving but little thought are better solved than formerly; but there has not been a rapid gain in ability to solve problems involving two or more steps in reasoning; and, to-day, the great need in the study of arithmetic is not accuracy and facility in numerical-work, but ability to solve problems involving thought.

In confirmation of the truth of my statements I present to you the results of the last diploma examination in arithmetic. In oral arithmetic, 92 per cent. of the answers were correct; in sight arithmetic, 85 per cent.; in written arithmetic, 82 per cent. Notice that 94 per cent. of the answers were correct to the question involving the addition of fourteen numbers, each of which is expressed by three or four figures; that 92 per cent. of the answers were correct to the question in division of decimal fractions; and that 92 per cent. of the answers were correct to the question in the form of a bill involving ciphering in multiplication and addition of United States money. The per cent. of correct answers to the last three questions, involving a little more thinking than the first three, were, respectively, 72 per cent., 61 per cent., and 77 per cent. These results, good in general, show that the large majority of last year's candidates for diplomas could cipher correctly, but that they needed more exercise in thinking with numbers.

In strong contrast with these results are those of an examination given in this city about forty years ago to candidates for medals. I have carefully examined the answers of the candidates in two of the schools, famous in the school annals of Boston, and under able masters, who left their mark upon the last generation. The pupils in one of the schools, which I will call A, answered 33 per cent. of the nine questions correctly; the pupils of the other school, which I will call B, answered 23 per cent. correctly. As some of these questions were evidently ill-suited to the pupils, I examined the answers of the first five questions, which nearly all tried. Of these five questions the pupils in A answered correctly 52 per cent., and the pupils in B 44 per cent. These same five questions were given out to the pupils now belonging to the first classes in the same schools, A and B. The pupils in A answered 96 per cent. of the questions correctly, and the pupils in B 89 per cent. Making due allowance for the disturbing influence which the presence of some ugly questions may have exerted upon the pupils of forty years ago, there seems to be no doubt that the pupils now in A and B are better scholars in arithmetic than the old-time pupils.

One other fact is worthy of your attention. Of the mistakes made by the former pupils, 43 per cent. in A and 62 per cent. in B were mistakes in numerical work. The number of mistakes made by the present pupils in A were too few to be divided, and the mistakes of the present pupils in B were mainly caused by their ignorance of true discount, which they had not studied.

The pupils of forty years ago did well for their day and generation. With better methods of instruction, the pupils of to-day do better. May we not hope that the School Board, recognizing the fact that all changes in methods must be slow and gradual, will allowthe present plan of instruction in arithmetic to abide in the schools, and to do its perfect work?

SCHOOL DOCUMENT NO. 8—1887.

REPORT

OF THE

COMMITTEE ON TEXT-BOOKS.

BOSTON:
ROCKWELL AND CHURCHILL, CITY PRINTERS,
No. 39 ARCH STREET.
1887.

REPORT.

In School Committee, Boston, May 24, 1887.

The Committee on Text-Books, in accordance with the rules, submit their annual report.

The committee entered upon their work in the belief that it would be necessary that the strictest economy should be exercised in all departments of the public schools to keep within the appropriation granted by the City Council. They have endeavored to perform their duty with due regard to the interests and needs of the schools, but with the fixed purpose of recommending no changes in text-books that could possibly be postponed, or that would require any considerable expenditure of money.

In the department of modern languages the committee are of the opinion that certain changes are needed, and they present those which, in their judgment, are most urgent. There is not a sufficient variety of material of proper standards, in French especially, to meet the wants of the schools, and your committee recommend that three of the present books in French and German be dropped from the list, and more suitable books substituted for them.

The only other change recommended with relation to books in the Latin and High Schools is the placing on the list of books of reference for these schools Labberton's Historical Atlas, of which not more than one hundred copies would be needed.

In the Grammar Schools the committee recommend the addition of the revised edition of Warren's Common School Geography to the list of text-books. This change will re-

quire no increase in expense, as the revised edition will be furnished only as new books are needed, and the cost of the new edition is the same as that of the old.

Your committee called the attention of the Board last year to certain needed changes in the reading-books for Grammar Schools. They feel that it is so important and necessary that a change be made, that they recommend the addition to the list of the new Franklin Fourth and Fifth Readers. After consultation with the Committee on Supplies, the Superintendent, and Board of Supervisors, the opinion is unanimous that the change proposed is a very desirable one. This change can be effected with no material increase in expense, the plan being to continue the books now in use and to supply the new books only as new readers of these grades are needed.

The committee will submit their report on supplementary reading at a subsequent meeting.

The committee recommend the passage of the following orders.

For the Committee,
JOHN G. BLAKE,
Chairman.

1. *Ordered*, That Ventura's Peppino, Halévy's L'Abbé Constantin, and La Fontaine's Fables (Sauveur edition) be authorized for use as text-books in the Latin and High Schools in place of Saintaine's Picciola and Souvestre's Philosophe sous les Toits.

2. *Ordered*, That Sauveur's Petites Causeries be authorized for use as a text-book in the Latin and High Schools; this book to be supplied as new French readers are needed.

3. *Ordered*, That Grimm's Märchen be authorized for use as a text-book in the Latin and High Schools.

4. *Ordered*, That Nathan der Weise be dropped from the list of text-books for the Latin and High Schools.

5. *Ordered*, That Warren's Common School Geography (revised edition) be authorized for use in the Grammar Schools; the new edition to be furnished at the discretion of the Committee on Supplies.

6. *Ordered*, That the new Franklin Fourth Reader be authorized for use in the fourth and fifth classes of the Grammar Schools, and the new Franklin Fifth Reader be authorized for use in the third class of the Grammar Schools; the new books to be furnished at the discretion of the Committee on Supplies.

7. *Ordered*, That Labberton's Historical Atlas and General History be authorized for use as a reference-book in the Latin and High Schools, — one book for the desk of each teacher.

SCHOOL DOCUMENT NO. 9 — 1887.

ARITHMETIC

IN THE

PRIMARY AND GRAMMAR SCHOOLS.

ADDRESS OF GENERAL FRANCIS A. WALKER,
BEFORE THE SCHOOL COMMITTEE,

APRIL 12, 1887.

BOSTON:
ROCKWELL AND CHURCHILL, CITY PRINTERS,
No. 39 ARCH STREET.
1887.

In School Committee,

Boston, May 24, 1887.

Ordered to be printed.

Attest:

PHINEAS BATES,

Secretary.

ADDRESS OF GEN. FRANCIS A. WALKER, ON ARITHMETIC IN PRIMARY AND GRAMMAR SCHOOLS.

Mr. President and Gentlemen: — When I moved, last winter, the resolution which has become the subject of the report of the Committee on Examinations, this evening, it was without any purpose of taking part in the inquiry proposed. But the course of public discussion since that time, and my own appointment to the Committee on Examinations, have seemed to require something to be said by me regarding those features of the study of arithmetic in our common schools to which exception has been taken, and which the committee, through their chairman, have unanimously recommended should be reformed in part, or reformed altogether. And first it may be said that, if there be any reason whatsoever for believing that the course in arithmetic can be simplified and shortened, the matter is not one of slight importance. The cry of overwork frequently comes from pupils, parents, and physicians, who are undoubtedly sincere, even if mistaken in this view; while if we reject the plea of overwork, and conclude that the amount of study required of our children is, as an aggregate, not too large, we still have to encounter the almost unanimous complaint of teachers that studies are set down in the official courses which they have not time to teach as they ought to be taught, many going so far as to say that it would be better that some of these subjects should not be broached at all if they are not to be dealt with more thoroughly and systematically than is possible at present with

the time allowed. If, then, the course in arithmetic can be abridged, without injury on that side of our public schools, we know very well what to do with the time so released. It may be applied, in the discretion of the School Board, either in relieving the pupils from the general strain of their work, or in allowing the further cultivation of natural science, or in affording additional practice in the art of observation, or in making way for the new mechanical and industrial exercises demanded by so many of our citizens.

IMPORTANCE OF ARITHMETICAL STUDY.

Let me not be understood as disparaging the importance of the proper study of arithmetic in our public schools.

No one has a higher appreciation of the vital practical importance of having our children taught to perform ordinary arithmetical operations with absolute accuracy, and with a good degree of facility. Indeed, it is one of the gravest accusations brought against our public schools, as at present administered, that the old-fashioned readiness and correctness of "ciphering" have been, to a large degree, sacrificed by the methods which it is now proposed to reform. A false arithmetic has grown up, and has largely crowded out of place that true arithmetic which is nothing but the art of numbers. But to this point there will be a more fitting occasion to advert further on. The question as to the amount of arithmetical study at present desirable cannot be properly understood without reference to the courses of study in our schools a generation ago. At that time, with the whole week, excepting only Saturday afternoon, at the disposal of the teacher, the studies in the district school were few and simple. Reading, writing, and arithmetic, a little grammar, and a little political geography, made up substantially the course of study. In this condition there was not only no reason to scrutinize carefully the amount of time used for

arithmetic, but that study was naturally and properly looked to for a considerable part of the mental training of the child. Increasingly, within the last thirty, twenty, and ten years, new studies in great variety have been introduced into our school courses, some of which are better suited for the purposes of intellectual training than arithmetic itself.

Thus we have, in addition to the simple political geography of an earlier day, the extended study of physical geography, rising into what were once the mysteries of meteorology.

OFFICIAL COURSE OF STUDY.

In illustration of this point, allow me to quote from the official course of study, as revised and simplified in 1885 : —

Class IV. (Three hours a week). — Second stage of the study of geography. 1. Study of the earth as a globe; simple illustrations and statements with reference to form; size; meridians and parallels, with their use; motions, and their effects; zones, with their characteristics; winds and ocean currents; climate as affecting the life of man (occupations, manners, customs, etc.)

2. Physical features and conditions of North America, South America, and Europe studied and compared; position on the globe; position relative to other grand divisions; size; form; surface; drainage; climate; life (vegetable, animal, human); regions adapted to mining, agriculture, etc.; natural advantages of cities; comparison of physical features and conditions of one grand division with those of other grand divisions. Map-drawing as the study of each grand division proceeds. Other grand divisions to be studied if there be time.

Such are the subjects now prescribed for our children of eleven and twelve years of age. After the completion of this body of study, the child has still three years of geographical study before graduating from the Grammar School. Again, we have a large body of elementary science, extended through the nine years of the primary and grammar schools, regarding which I will only quote the curriculum of two years : —

Class II. (One hour and thirty minutes a week). — Physiology and hygiene.

1. Growth and renewal of the parts of the body, how secured.

(*a*) The digestive apparatus and digestion. Food, the quality and and quantity of, etc.

(*b*) Circulation, the organs of. The blood as a circulating medium.

(*c*) Respiration, the organs of. Ventilation. The vocal apparatus.

2. (*a*) The digestive organs of man and other animals, compared. (*b*) Their modes of breathing, compared. (*c*) The amount of animal heat, compared.

Class I. (Two hours a week). — Physics. Common facts learned from observation and experiment, in regard to as many of the following topics as the assigned time will allow: 1, matter, its properties, its three states; 2, motion and force, laws of motion; 3, gravitation; equilibrium, pendulum; 4, lever, wheel and axle, pulley, inclined plane, wedge, screw; 5, liquid pressure; specific gravity; 6, atmospheric pressure; barometer, pumps,siphon; 7, electricity, frictional and current; conductors, magnetism, compass, magnetic telegraph; 8, sound; pitch of sounds, echoes, acoustic tubes; 9, heat; diffusion, effects, thermometers; 10, light, reflection, refraction, lenses, solar spectrum, color.

But these are not all the new subjects to which pupils are now required to give their time and attention. In addition to the old-fashioned "parsing," with an occasional composition, we now have studies in English literature and the history of the English language, justifying, it would appear, such questions on examination as "changes in the English language from the time of the Norman conquest to the death of Chaucer," — a question unknown to the high school and preparatory academy of a generation ago, and even to the earlier years of the college curriculum. Moreover, we have music and drawing pursued systematically and at great length through the entire course of the primary and the grammar school. It is not necessary to take the time of the committee for further enumeration of subjects of study which have been forced into the school-week, which is certainly no longer than it was a generation ago, and which is shorter by one-half of Saturday. It is evident that, if so much must come in, something must go out to make room for it; and,

secondly, that we have, in these new studies, means for much of that training of the child's powers which our fathers looked to arithmetic to accomplish. "That mathematics can," says Sir William Hamilton, "possibly, in their study, educate to any active exercise of the power of observation, either as reflected upon ourselves, or as directed on the affairs of life and the phenomena of nature, will not, we presume, be maintained." "That they do not cultivate the power of generalization" he continues, "is equally apparent." "But the study of mathematical demonstration is mainly recommended as a practice of reasoning in general; and it is precisely as such a practice that its inutility is perhaps the greatest." "Are mathematics then" he concludes, "of no value as an instrument of mental culture? To this we answer, that their study, if pursued in moderation, and efficiently counteracted, may be beneficial in the correction of a certain vice, and in the formation of its corresponding virtue. The vice is the habit of mental distraction; the virtue, the habit of continuous attention. This is the single benefit to which the study of mathematics can justly pretend in the cultivation of the mind."

Such was the opinion of England's greatest philosopher, in this century, at least. Reverting, now, to the course of study in the primary and grammar schools of Boston, I do not hesitate to say that some of the new subjects of study, if properly pursued, will not only educate to an active exercise of the power of observation, will not only cultivate the power of generalization, will not only afford excellent practice of reasoning in general, but will also serve to create the habit of continuous attention, as well as, or even better, than mathematics. Certainly the attention given by a class of interested children in the study of natural history, under a good teacher, is far closer and much more truly educational than the attention given by pupils who are driven reluctantly through an arid waste of mathematics.

I reach the conclusion, then, that not only the demand upon the time of our pupils, but the character of the subjects of study, new to this age, justifies and requires that arithmetic be restricted to that amount which is needed to give facility and accuracy in ordinary numerical operations, with a view to the use to which this power is to be put, either in practical life, or in subsequent and higher studies. The amount of time now expended upon the study of arithmetic by the revised course is as follows: In the primary school, Class 3, three hours thirty minutes per week; Class 2, four hours; Class 1, four hours, thirty minutes; Grammar school, Class 6, four hours, thirty minutes, per week; Class 5, four hours, thirty minutes; Class 4, five hours; Class 3, five hours; Class 2, four hours, thirty minutes; Class 1, four hours. During the second half of the last year two hours and a half additional per week are devoted to the study of bookkeeping; but to this I shall not advert.

It appears, therefore, that nearly four hours and a half a week, or almost exactly one fifth of the entire school-time are devoted to the study of arithmetic, on the average, during the nine years of school-life, according to the prescribed courses. But it also appears, from the results of an investigation made last winter at the instance of this committee, that this allowance of time is, in many cases, exceeded, in some cases exceeded considerably, during school-hours; while it also appears that in thirty-six school districts home lessons are, to a greater or less extent, assigned in arithmetic. It is in the belief that our pupils could acquire all needed facility and accuracy in numerical operations in less than the time now devoted to arithmetic, that the committee have included in their report two propositions, — one, that home lessons in arithmetic shall be given out in exceptional cases only; another, to establish the average time to be devoted to the study of arithmetic at three hours and a half per week. It is my personal belief that this reduction may ultimately proceed

even further to advantage, and that the average child could acquire as much accuracy and facility in this regard as would be desired if properly instructed in simple numerical operations for three hours a week through a term of five years.

At the present time the results in accuracy, if not in facility, of arithmetical work leave very much to be desired. Scarcely has the child been taught to count as high as ten when he is put at technical applications of arithmetic, to money-coins, to divisions of time, space, etc.; and these technical applications are increased in number and in difficulty through the successive years of the grammar school, until for a large amount of so-called arithmetic the pupil gets comparatively little practice in the art of numbers. I am far from saying that the pupils of our public schools should not acquire a certain amount of useful information. The most familiar "tables" of lengths, weights, measures, and coins may properly be given them, and they may advantageously be practised in simple operations thereunder. But this whole matter of the technical applications of arithmetic should be treated in a highly conservative spirit. Of late years there has been some reform in this particular, and a few of the monstrosities of the old curriculum, notably our ancient enemy, duodecimals, have been thrown overboard. But there still remain many things, as taught in our schools, which occupy time that could better be devoted to the study of other subjects, or, at least, to a greater degree of practice in simple operations. The report of the Committee on Examinations contains propositions for a very extensive retrenchment on this side. Compound interest, compound proportion, compound partnership, cube root and its applications, equation of payments, exchange, "similar surfaces," and the mensuration of the trapezoid and trapezium, of the prism, pyramid, cone, and sphere, are proposed to be dropped from the course in the grammar school. If these subjects are to be studied, it should be in the high school. Another change

in this direction is in the proposition to remove from the grammar school the study of the metric system.

The committee believe that, in the present state of our laws and commercial usages, the metric system is a proper subject for extended study in high schools only. The introduction of this subject so widely into the public schools of the United States has been due, not to an appreciation of the practical advantages of this instruction to the existing body of pupils, but to a propaganda for the promotion of legislation on the part of Congress and the legislatures of the several States, looking to the general adoption of the metric system. The committee object to having the children of Boston used any longer as an agency for promoting that object, however in itself desirable. Not one child in a hundred, or in three hundred, who has left the schools of Massachusetts during the last ten years, to go to work, has ever once had occasion to use the metric system for any practical purpose. The few who may be called to make use of this system can acquire such portions of it as they may need from their employers or their fellow-employees.

In pursuit of the same object, it is further provided in the report of the committee, that all exercises in fractions, commission, discount, and proportion shall be confined to small sums, and to simple subjects and processes, the main purpose throughout being to secure accuracy and a reasonable degree of facility in plain, ordinary ciphering. Who of us has not seen in the hands of children of eleven, twelve, and thirteen years of age, examples in "compound and complex fractions" which were more difficult than any operation which any bank cashier in the city of Boston has occasion to perform in the course of his business from January to December? The most jagged fractions, such as would hardly ever be found in actual business operations, *e.g.*, 11–29 or 13–27, are piled one on top of another, to produce an unreal and impossible difficulty; and the child, having been

furnished with such an arithmetical monstrosity, is set to multiplying or dividing it by another "compound and complex fraction" as unreal and ridiculous as itself. All this sort of thing in the teaching of young children is either useless or mischievous. It is bad psychology, bad physiology, and bad pedogogics. Every pupil, by the time he leaves the grammar school, should be taught to use small sums infallibly, in multiplication and division, and to add columns of figures as long as an ordinary house-keeper's book or bank-deposit book, almost beyond the possibility of ever committing an error. This nearly every child of ordinary brightness can be brought to do, and that in a small part of the time now devoted to the so-called study of arithmetic. It is not necessary that the pupil should be brought to do this thing with rapidity. Only a reasonable facility should be aimed at. If a boy is to go into some line of work where figures are used only incidentally and occasionally, he will have facility enough for the purpose. It is only necessary that he should be infallibly accurate; and this any good teacher ought to be able to secure in five years, seven years, or nine years of drill. If, on the other hand, a boy is to go into a position where his main work is to be concerned with figures, he will readily enough acquire the necessary facility, if only accuracy has been secured during the years of especial mental growth and training. If, however, his training has been loose and unsystematic, no amount of practice will give him accuracy; the faster he works, the more mistakes he will make. Nor is it easy, if, indeed, it be at all practicable, to remedy the defects of early education in the case of one who has passed the age of fifteen or sixteen without that training and drill in the use of figures, which would make mistakes in simple operations almost impossible.

Unfortunately, in this matter of inaccuracy in the use of figures, resulting from the manner in which arithmetic is now taught in our schools, the evidence is overwhelm-

ing in character and amount. Our technical schools receive pupils from the high schools, who, while they understand difficult theorems, and are masters of complicated algebraic formulæ, make mistakes in the simplest arithmetical operations. If the high schools are blamed for this the masters justify themselves by alleging that pupils come to them — as a high-school teacher said to me within two weeks — without being able to add or multiply, to subtract and divide, or even to count, with accuracy. The grammar-school masters, if appealed to, are obliged to admit the deficiencies of their graduates; but, they ask, what better can be expected when only a small fraction, often a contemptibly small fraction, of the time nominally devoted to the study of arithmetic, can be given to numerical operations consistently with bringing their pupils up to the bar, duly loaded and primed for examination in countless technical applications of arithmetical rules, and consistently with giving them that flexibility for the purposes of arithmetical gymnastics which the practical and illustrative problems of the text-books require.

But it is not alone the teachers of the high schools who have occasion to complain of the way in which the study of arithmetic is conducted under the prevailing system. The employers of those boys and girls who leave the grammar school to go to work have occasion to complain, and do complain bitterly, of the deficiencies of our instruction on this side. After very extensive inquiries, conducted through the past year, I do not find it possible to entertain a doubt that the old-fashioned facility and accuracy in ciphering have been largely sacrificed to the numerous technical applications and difficult logical puzzles which have been introduced into the instruction in arithmetic, and that our children leave the schools very ill-prepared, in this respect, for the practical work of life. Now, if any greater wrong, short of a permanent injury to health, can be done a child than

to send him into the world to earn his living, without the ability to conduct numerical operations accurately and with reasonable facility, it would be difficult to see what that injury would consist of. Employers have, literally, no use for boys who make mistakes in numbers. Such a failing offsets the best training otherwise of mind and hand.

In a store or shop or factory, or on a railroad, a lad who cannot set down figures and add them rightly every time is little better than a cripple. The master of one of our high schools told me recently that he was informed by the presi- of a Boston bank that, at an examination held during the year with reference to an appointment in his institution, out of several graduates of various high schools of this vicinity, not one was found able to add the columns of figures given him, without errors. It is little wonder that this should be the result, when, of the time devoted to arithmetic, four-fifths or nine-tenths are occupied by technical applications of numerical principles, or are worse than wasted by logical puzzles unsuited to the child's age and mental strength.

And this last remark brings me to the hardest accusation which is to be brought against the current teaching of arithmetic. Well aware that at this point we have to encounter an inveterate superstition of the New England mind, I have armed myself as much as possible with authority derived from men of the ripest wisdom and the largest learning in mental science. The charge I make against the existing course of study is that it is largely made up of exercises which are not exercises in arithmetic at all, or principally, but are exercises in logic; and, secondly, that, as exercises in logic, these are either useless or mischievous. The class of exercises that are here in mind will be easily apprehended. They are those where an example, or so-called practical problem, is given in figures and words, which are to be reduced to the form of figures and algebraic signs, and thereupon the performance of the indicated

numerical operations will yield the required result. It would, perhaps, be going too far to say that such examples should in no case be given; but it may be unhesitatingly asserted that, wherever the "statement" which is preliminary to the performance of the purely arithmetical operations involves a great deal of trouble, time, and thought, while the mere ciphering which follows is done in a minute, as a matter of course, such exercises are not exercises in arithmetic, but in logic.

Secondly, if such exercises of any considerable degree of difficulty, are to be set at all for the pupils in our public schools, they should be prescribed as exercises in logic, or the art of reasoning; they should be taken from books prepared by eminent teachers of the science of mind, who are qualified to decide as to the degree of difficulty in logical exercises which is suitable to the child of this or that age; and the exercises so prescribed should be conducted by persons themselves trained and qualified to teach the art of reasoning. To smuggle exercises of this character into instruction given in the name of arithmetic is an abuse. By it has been created a bastard arithmetic, which fails to perform the true function of that study in our public schools, — namely, to produce accuracy and a reasonable degree of facility in numerical operations, — while wasting the time of the pupils, perplexing their minds, worrying their tempers, rasping their nerves, and, in case of total or partial failure, unnecessarily and unrighteously shocking and impairing their self-respect and scholarly ambition.

Does any one consider this an extravagant denunciation of exercises of the character indicated? I ask, is there any father who has had children in the public schools of Boston, where arithmetic is used as a home lesson, who has not seen those children puzzling and worrying ten, fifteen, or twenty minutes over a "practical problem," the purely numerical work of which would not occupy as many seconds; and, after an

evening spent in this way, going to bed hot, tired, and perhaps tearful, and altogether unfitted for that sound and healthful sleep which should close every child's day? I have myself had four children in the grammar schools of this city or of New Haven, where home-lessons in arithmetic were allowed. Each one of these, in turn, I have seen tormented in this way; and have myself, not infrequently, when stooping to aid them, that they might go to bed in something like Christian season, been not a little perplexed and troubled to make the statements required. Doubtless, this has been the experience of most parents; and, doubtless, too, this practice would long since have been reformed, but for the inveterate superstition of the New England mind, that it is well the child should be worried and perplexed in education, and that out of this agitation of the nerves and this strain upon the mental powers proceed health and vigor. Such a view is everywhere yielding to a better study of the laws of mind. Generally, if not universally speaking, whatever in education is hard is wrong. The true mental gymnastic for growing children is through exercises easy and pleasant, which lead insensibly up to ever higher planes of attainment, as the faculties are expanded and strengthened according to their own law of growth, aided and fostered by gentle and agreeable practice.

It is in my power to present to the committee the results of an experiment on a sufficiently large scale to establish the truth of these representations regarding the difficulty of many of the sums and problems set for the pupils of our public schools. Fourteen examples, taken from the arithmetic in use in our schools, were given out to a large number of pupils of the three upper classes in four of our grammar schools. These examples were not the most difficult which could have been taken for the purpose. On the contrary, a number of the examples first selected were thrown out upon the representation of the masters that they would be found

so difficult as to produce a general failure. The following represents the percentage of successful answers in each case: —

Example.	Per cent.	Example.	Per cent.
1	69	8	53
2	16	9	65
3	47	10	38
4	67	11	49
5	46	12	51
6	56	13	70
7	86	14	39

But it is not merely to the degree of difficulty attaching to exercises of this character to which exception should be taken. I desire to challenge, peremptorily, the whole policy of giving out exercises of any appreciable degree of logical difficulty to children of this age. Thoroughly convinced that such a practice involves, to repeat the phrase already used, bad psychology, bad physiology, and bad pedagogics, I was yet desirous of bringing to my support the authority of masters in mental science; and, with this view, addressed communications to Professor William James, professor of psychology in Harvard University; Professor George H. Howison, professor of philosophy in the University of California; Professor G. Stanley Hall, professor of pedagogics in the Johns Hopkins University, and Dr. Noah Porter, late president of Yale College, and still professor of mental and moral science in that institution. The purport of these communications was to inquire, first, whether the faculty of logical analysis is not one which, in the case of the vast majority of children, normally develops at a later period than that within our present consideration; secondly, whether if this be so, there is any pedagogical advantage in attempting to "pry up" this faculty, and bring it prematurely into consciousness and exercise, instead of devoting the time and strength of young pupils to the formation of a habit of ob-

servation, to the cultivation of the powers of perception, to practice in the interpretation of personally observed phenomena, to the acquisition of elementary information, and to the development, in a reasonable degree, of strength and clearness in the memory. The class of exercises to which exception has been taken were illustrated either by sufficient description or by actual examples. To these communications the most courteous replies have been received. The essential parts are here submitted, without apology for their length, on account of the great interest of the subject treated, and the high and commanding reputation of the authors.

Professor James writes: "The elaborate combinations of arithmetical data of which you write are certainly given to children before their brains are very hot for them; while I imagine, on the contrary, the mere operations of arithmetic are a comparatively congenial exercise. It is, as you say, in the association of concretes that the child's mind takes most delight. Working out results by rule of thumb, learning to name things when they see them, drawing maps, learning languages, seem to me the most appropriate activities for children under thirteen to be engaged in. Anecdotical history (without political ideas) might be added. I feel pretty confident that no man will be the worse analyst or reasoner or mathematician at twenty for lying fallow in these respects during his entire childhood."

Professor Stanley Hall writes: "If I correctly understand your position, I most emphatically agree with it. The purer the mathematics for boys of from ten to fourteen years of age, the better, it seems to me. Many of our arithmetics presuppose algebra and geometry; *i.e.*, in the latter part give examples that can be done easily by those methods, but which require students to go through long and tedious processes which algebra and geometry were meant to short-circuit. Problems in brokerage, surveying of land, architecture, custom-house practices, etc., are taught, just as in the old Hin-

doo mathematics a taste for poetry, and in mediæval arithmetics moral and religious maxims, and even systems, as well as historical information, were inculcated in the form of 'sums.' Has modern business really any more place at that stage? . . . American teachers seem to me to have spun the simple and immediate relations and properties of numbers over with pedantic difficulties. The four rules, fractions, factoring, decimals, proportion, per cent., and roots, — is not this all that is essential? The best European text-books I know do only this, and are in the smaller compass, for they look only at facility in pure number-relations, which is hindered by the irrelevent material publishers and bad teachers use as padding."

Professor Howison writes: "I understand your question to bear simply on the point whether I consider the class of arithmetical exercises, to which you refer, and in which the work turns almost entirely on the logical relations of the numbers given in each example, to be a wholesome *regimen* for pupils in the common schools, of ages from eleven to thirteen years. To this, I reply, first, that on general principles such exercises in reasoning upon the combinative relations of numbers, or numbered objects, ought to play a very subordinate part in the elementary period of instruction of arithmetic. But, neverthless, secondly, as the very life of arithmetical power turns on ability to make the logical synthesis involved in the latter kind of work (you see, I do not reckon them mere analyses, as is usually done), I think some exercises of this sort should go along with the other simpler and more natural kind, and that they should go from the earliest practicable date; almost from the beginning. But the combinative reasoning should be adjusted in the most careful and considerate manner, with a reference, that is, to the degree of difficulty with which the mind of a child is able at each date to cope, without confusion, and without sense of strain. So, thirdly, I should say that the question you raise concerns, mainly, a matter of more or less, — a matter of de-

gree. It is not that the class of exercises to which you refer are in kind and of necessity wrong, but that the complexity and difficulty of those actually given are so often out of all proportion to the healthy capacities of children at the age involved. . . . My own experience and opinion of many details in the arithmetics made for boys and girls of the age to which you refer are quite like yours. And my experience and my theories, founded on my professional studies and practice, have alike made it, with me, a matter of settled conviction that not only in mathematical, but in all elementary teaching, though in elementary mathematical teaching pre-eminently, the first thing is to get the pupil perfectly familiar with, and as nearly as possible infallibly accurate, in fundamental facts and operations. . . . I believe our current practice in this reference has for some years — say the last thirty — been going seriously wrong. The reaction from the exaggerated rote-work of the preceding period has driven us into the error of the opposite extreme.

"The attenuated thread into which grammar-school instruction is now 'long drawn out' should appear a patent absurdity to every thinking mind. Particularly is this absurdity manifest in the fact that we spend eight or nine years in nominally teaching arithmetic, when we ought to be able, surely, to accomplish all that is essential in three, or, at the very utmost, in four."

President Porter writes: "I am entirely with you in the opinion that the questions which you send me are unfit for pupils of fourteen or fifteen years, unless they have been subjected to a special training; and that to subject persons of that age to such a training would ordinarily do them more harm than good. . . . Nothing is so admirable, in its time and place, as the pure mathematics in every form. When these are properly taught, *i.e.*, when they have trained the mind to sharp analysis and patient synthesis, by the use of numbers and geometric forms, they prepare the way for the

higher forms of logical analysis and synthesis, and, last of all, for invention, — the invention which is presupposed in the problems to which you reasonably object."

It is for the reasons which have been given, reënforced by the authority of the eminent teachers who have been cited, that the committee have included in their recommendations a rule which would require that all practical and illustrative problems should be of a nature to interest and to aid the pupils in their strictly arithmetical work, not to throw obstacles in their way, or increase the difficulty of that work; it being expressly provided that all problems where an attentive and diligent pupil of ordinary capacity would find any considerable degree of difficulty in making the "statement" preliminary to the performance of the numerical operations required, shall be deemed objectionable.

SCHOOL DOCUMENT NO. 10—1887.

REPORT

OF THE

COMMITTEE ON EXAMINATIONS.

REVISED COURSE OF STUDY FOR HIGH SCHOOLS.

MAY, 1887.

BOSTON:
ROCKWELL AND CHURCHILL, CITY PRINTERS,
No. 39 ARCH STREET.
1887.

In School Committee,
Boston, May 24, 1887.

Laid on the table, and ordered to be printed.

Attest:

PHINEAS BATES,
Secretary.

REPORT.

In School Committee, May 24, 1887.

The Committee on Examinations were requested — Nov., 1885 — to consider and report whether or not the courses of study of the different grades of schools could, with advantage, be simplified. In March, 1886, the committee reported a revised course of study for the grammar and primary schools. At that time — March, 1886 — the committee were granted further time in which to report with relation to the courses of study of the other grades of schools.

After careful deliberation the committee present the course of study, for the high schools, as revised by them.

COURSE OF STUDY, HIGH SCHOOLS.

See Notes at End.

FIRST YEAR.

English. — *Three hours.* English Language and Literature.

History. — *Two hours.* History of Greece and Rome.

Foreign Language. — *Three or four hours.* French, German, or Latin.

Mathematics. — *Four or three hours.* Algebra.

Science. — *Three hours.* Physiology and Hygiene, for six weeks, then Botany or Zoölogy.

Music. — *One hour.*

Drawing. — *Two hours.*

Physical Exercise. — *Two hours.* Calisthenics for girls, Military Drill for boys.

Elective Substitute for Botany or Zoölogy, Book-keeping and Commercial Arithmetic.

SECOND YEAR.

English. — *Three hours.* English Language and Literature.

History. — *Two hours.* Mediæval History.

Foreign Language. — *Three or four hours.* French, German, or Latin continued.

Mathematics. — *Four or three hours.* Algebra finished and Plane Geometry begun.

Science. — *Three hours.* Chemistry.

Music. — *One hour.*

Drawing. — *Two hours.*

Physical Exercise. — *Two hours.* Calisthenics for girls, Military drill for boys.

THIRD YEAR.

English. — *Three hours.* English Language and Literature.

History. — *Three hours.* Modern History. The Civil Government of the United States and of Massachusetts.

Foreign Language. — *Three or four hours.* French, German, or Latin, continued or begun.

Mathematics. — *Four or three hours.* Plane Geometry finished. Solid Geometry.

Science. — *Four hours.* Physics.

Music. — *One hour.*

Physical Exercise. — *Two hours.* Calisthenics for girls, Military Drill for boys.

Elective Substitute for Solid Geometry, Drawing.

FOURTH YEAR.

Required Study. — *Two hours.* English Language and Composition.

Elective Studies. — *To occupy eighteen hours a week.* (1) English Literature. (2) The history of some important period. (3) French, German, or Latin continued. (4) Solid Geometry. (5) Plane Trigonometry with applications. (6) Elementary Analytic Geometry. (7) Elementary Mechanics. (8) Experimental Physics. (9) Chemistry. (10) Astronomy.

NOTE 1. — The number of sessions a week is five; the number of hours a session, five; and the average length of an "hour" for class exercises or study is about fifty minutes. Of the twenty-five school hours in a week two are to be given either to Calisthenics or to Military Drill, and five — one each day — to study.

NOTE 2. — The choice of a study, and changes in the choice of a foreign language, must be subject to the approval of the principal.

NOTE 3. — No preparation will be required for more than fifteen exercises a week.

NOTE 4. — In the second year Geometry may be begun before finishing Algebra

For the Committee,

JOHN C. CROWLEY,

Chairman.

SCHOOL DOCUMENT NO. 11—1887.

REPORT

OF THE

COMMITTEE ON EXAMINATIONS.

COURSE OF STUDY FOR THE BOYS' LATIN SCHOOL.

MAY, 1887.

BOSTON:
ROCKWELL AND CHURCHILL, CITY PRINTERS,
No. 39 ARCH STREET.
1887.

In School Committee,

Boston, May 24, 1887.

Laid on the table, and ordered to be printed.

Attest:

PHINEAS BATES,

Secretary.

REPORT.

In School Committee, May 24, 1887.

The Committee on Examinations, to whom was referred — April 26 — an order proposing an amendment to the course of study for the Boys' Latin School, respectfully report that, owing to the recent changes in the requirements for admission to Harvard College, it is necessary that the present course of study in this school be modified.

In setting forth its requirements for admission to the Freshman Class, Harvard University divides studies into "elementary" and "advanced." In the following courses of study the former are marked (E), the latter (A). Subjects marked ($A\frac{1}{2}$) are regarded as one-half of an advanced study. Studies denoted by the same letter are interchangeable.

By combining the elementary and advanced studies in different ways, the University presents four methods of examination, one of which must be taken after the year 1887. The old or present method will be abrogated.

Two only of these methods are practicable for the Latin School, so long as it remains a classical, as distinguished from a scientific, school; and these methods are as follows: —

Those studies, which are the same in all courses, are printed in Roman type, the variations in italics.

I.

By combining all the elementary studies, with the exception of German, and three advanced studies, the following course is obtained : —

1. English. — Short composition upon a subject taken from prescribed reading. (E)
2. Greek. — (a) *Translation at sight of simple Attic prose.* (E)
   (b) " " " " *average passages from Homer.* (A)

   or,

   (b) " " " " *less difficult passages from Homer and Herodotus.* (A)
   (c) " *into Greek of a connected narrative based upon some portion of the first five chapters of Xenophon's Cyropædia.* (A½)
3. Latin. — (a) Translation at sight of simple prose. (E)
   (b) " " " " average passages from Cicero and Vergil. (A)
   (c) " into Latin of a passage based upon some portion of Nepos's Lives of Miltiades, Themistocles, Alcibiades, Epaminondas, and Hannibal. (A½)
4. French. — Translation at sight of ordinary prose. (E)
5. History. — (a) History of Greece and Rome. (E)

   or,

   (a) " " United States and England. (E)
6. Mathematics. — (a) Algebra, through Quadratic Equations.
   (b) Plane Geometry. } (E)
7. Physical Science. — A course of experiments in the subjects of mechanics, sound, light, heat, and electricity, not less than forty in number, actually performed at school by the pupil. (E)

This course is the same as the present one, with the exception of the method prescribed in the teaching of Physical Science, which demands the apparatus necessary for performing the experiments.

The following substitutions are allowed : —

1. For Greek Composition (2, c), either Solid Geometry, or the elements of Analytic Geometry, or Elementary Mechanics, or Trigonometry and Logarithms.

For advanced Greek (2, b), either advanced French, or advanced Physics, or advanced Mathematics.

In advanced French, the course is as follows : —

1. George Sand (Marianne).
2. Sandeau (Mlle. de la Seiglière, the play).
3. Sandeau (Le Gendre de M. Poirier).
4. Henri Gréville (Dosia).
5. La Fontaine (Fables, books 1 and 2).
6. Molière (L'Avare).
7. Racine (Andromaque).
8. Corneille (Horace).
9. Translation at sight of modern French prose.
10. Grammar and Composition.

The degree of proficiency to be acquired in advanced French and German is set forth in the following paragraph taken from the Harvard catalogue : —

"In advanced German and French, translation at sight will form an important part of the examination. Candidates will be expected to be familiar with the subject-matter as well as the language of the prescribed books. Some of the latter may be changed from year to year. The passages set for translation into German or French will be suited to the proficiency of those who have begun to study the language in College and have had instruction in it three hours a week for two years."

The course in advanced Physics demands at least sixty

experiments in addition to those of the elementary Physics (7), covering the same subjects, but demanding more skill and more knowledge of physical theories and laws.

The course in advanced Mathematics is as follows: —

(a) Logarithms; Plane Trigonometry with its applications to surveying and Navigation.

(b) Either Solid Geometry or the elements of Analytic Geometry.

or,

(b) Elementary Mechanics.

II.

By combining all the elementary studies with two of the advanced studies, the following course is obtained: —

1. English. — Short composition upon a subject taken from prescribed reading. (E)
2. Greek. — *Translation at sight of simple Attic prose.* (E)
3. Latin. — (a) " " prose. (E)
   (b) " " average passages from Cicero and Vergil. (A)
   (c) " into Latin of a passage based upon some portion of Nepos's Lives of Miltiades, Themistocles, Alcibiades, Epaminondas, and Hannibal. ($A\frac{1}{2}$)
4. German. — *Translation at sight of simple prose.* (E)
5. French. — " " " ordinary " (E)
6. History. — (a) History of Greece and Rome. (E)
   or,
   (a) " United States and England. (E)
7. Mathematics. — (a) Algebra, through Quadratic Equations. (E)
   (b) Plane Geometry. (E)
   (c) *Solid* " ($A\frac{1}{2}$)
8. Physical Science. — A course of experiments in the subjects of mechanics, sound, light, heat, and electricity, not less than forty in number, actually performed at school by the pupil. (E)

This course takes from the Greek of the present course, and adds elementary German and Solid Geometry. The prescribed method of teaching Physical science demands the same supply of apparatus as in course I. For Solid Geometry may be substituted either the Elements of Analytic Geometry, or Elementary Mechanics, or Logarithms and Plane Trigonometry with its applications to Surveying and Navigation.

The committee recommend the passage of the following order: —

For the Committee,

JOHN C. CROWLEY,
Chairman.

Ordered. — That the course of study in the Boys' Latin School be modified in conformity with the courses presented in this document (Doc. 11, 1887).

SCHOOL DOCUMENT NO. 12 — 1887.

SECOND ANNUAL REPORT

OF THE

INSTRUCTOR IN HYGIENE,

1887.

BOSTON:
ROCKWELL AND CHURCHILL, CITY PRINTERS,
No. 39 Arch Street.
1887.

REPORT.

To the School Committee: —

I take pleasure in presenting this, my second annual report.

Although the schools of Boston will compare favorably with those of any other city, in their construction and convenience, and the quality of the accommodations which they furnish to pupils, it must be said that many of the older buildings are very far from perfect, when judged from a sanitary point of view. It is impossible to remedy all the defects in some of those buildings; but they will admit of alterations and improvements, which are much needed in some instances.

The chief difficulty is defective ventilation. It is almost impossible to secure good ventilation by the natural method; that is to say, the movement of the outer atmosphere passing over the mouth of a ventilating-pipe or cupola does not draw the air out of a room or a building with sufficient force and rapidity to conduce to good ventilation. A chimney-flue may do its required work in this simple way; but the draft does not depend, except in a slight degree, upon the current of outer air blowing over the chimney-top, but, rather, because the column of air in the flue is heated by the smoke and fire, and, in obedience to a physical law, flows upward. We need not expect a like result in the case of a room simply provided with a ventilating-flue, assuming that, because a pipe leads out, the air will escape through it in sufficient volume. The proper ventilation of a school-room by that method is out of the question. And yet that is the sys-

tem that was adopted in nearly all the school-buildings erected previous to a few years ago.

In a few (grammar) school-houses the device of warming the flues by burning gas and by heated steam-coils, was introduced, thus calling in heat to aid the natural draft. The method is good and sound in theory, but seems difficult in practical application. At all events, in the schools in question, with one possible exception, it has not been a success. In another school-house the large iron smoke-pipe from the furnace passes upward in a roomy, straight shaft in the centre of the building, which receives from the various rooms. In this case, the heat of the pipe, when the furnace is working, helps the upward current, but not sufficiently to secure the required result. In still another (small) building, the smoke-pipe runs through the ventilating-flue. These are the only instances where heat is called in to assist in ventilation. Notwithstanding the failure in these cases to fully attain the desired end, it is a reasonable, and could be made an effective system; and, did we not have a better method available (and in buildings where the latter is impractical), I would urge its continued trial under better mechanical conditions than were adopted in the cases cited.

But, wherever it is possible, I would recommend the introduction of a process of artificial ventilation superior to any other in the certainty of its work. It is known as the system of "exhaust ventilation" and has been adopted in all the large school-houses completed within the past three or four years. The air is drawn out of the room by the action of a revolving fan, worked by steam, and which is set in a box or chamber in the upper part of the building, near the roof, and into which empty all the ventiducts from the various study and dressing rooms. The rapid revolution of the fan-wheel, the blades being set at an angle, has the effect of lifting the air from below and forcing it out through the opening in the roof. Neither contrary wind nor a quiet

atmosphere, nor rain, nor storm affects the discharge of air, which *must* go on, when the fan is operating. There are some undesirable features connected with the apparatus, but they are tolerable in view of the benefits achieved. This method involves the use of a small engine, with some machinery, and a shaft connecting with the fan, running up through the building. There may be a slight rumble perceptible in some parts of the house, caused by the engine and machinery, but not enough to interfere with the school exercises. This system of ventilation involves additional expense for the apparatus and the cost of running it. There is also the possibility of accident, slight or grave, to the engine, which might result only in temporary arrest in its operation, but on the other hand might possibly produce more serious consequences. The latter possibility should not be ignored, although the likelihood of its occurrence may be remote. In the contingency of a serious accident to the engine, life might be endangered as well as property destroyed. In the light of this possibility, however unlikely, it is desirable to adopt some safer motive-power than steam. That can be obtained by electricity, although the cost would at present be probably greater than that of steam-power; but the use of electricity would free us from the dangers and objections that attach to the steam-engine.

In late years in the construction of new buildings a great advance has been made in that department of sanitation which, for obvious reasons, comes under notice in the schools perhaps more frequently than any other. I allude to the privies and urinals. It is not a little singular that, until within a few years, no improvement was made in these sanitary conveniences beyond the old-fashioned and imperfect forms, excepting in one or two special cases, where the hopper-closet was introduced. Before the city was provided with a common water-supply the schools were furnished with the old-fashioned vault or cesspool. That

was supposed to be the best accommodation in those times. After the introduction of water and the construction of a system of sewerage, connections were made with most of these vaults, whereby the contents could be partly, if not wholly removed. This measure is however only palliative. I find that, as a rule, the outlet is situated from one to two feet above the floor of the vault. There must, therefore, be retained at the bottom a large amount of semi-solid deposit, more or less permanent. The qualifying term "more or less" has reference to the fact that in the greater number of these localities, the surface-water from the yard and the rain-water from the roof are conveyed into the vault, thereby diluting the mass in some measure, and aiding in its removal. The hose also is occasionally used for the same purpose. But, in spite of these partial measures, the vault is never empty and clean, not even after a visit from the agents of the "excavating company." It is natural to suppose, then, what is an existing fact, that these privies are, in many places, sources of great offensiveness and discomfort, and, I may justly add, disease.

With this brief description of the old form of vault and its objections and dangers, I would respectfully urge upon the committee to make every possible effort to have it eradicated from the schools, and to substitute in its stead the new form of privy which has been placed in the school-buildings lately erected. I allude to the water-vault, or flush-vault, which admits of complete emptying and thorough cleansing every day. This style of vault consists of a long trench three or four feet wide at the top, with converging sides and concave bottom, and not more than about three feet deep at its lowest point. It is laid and finished in smooth, hard cement, and is accessible in every part. It is filled with water every day to the depth of twelve to eighteen inches, and emptied in a few minutes at the close of school in the afternoon, by the withdrawal of a large plug at the lower

end of the vault where the drain connects. The cleansing need not be confined to the simple emptying, as the hand-hose and the broom may be called into requisition. This form of vault is modelled upon that of the old *latrina* of the Romans; and, though we are a little late in adopting it, we are ready to acknowledge it is the best that has been invented, at least for schools. There are other methods of dealing with the contents of privies, which, from a purely hygienic point of view, might be considered superior; but they are not practical, or, at least, are not likely to be soon adopted, and need not be discussed. The vault just described is that which has been placed in the new buildings; and its superiority over the old forms is so plainly apparent that it is the intention of the building department of the City Government to substitute it as rapidly as possible in the older school-houses. The change was made in two schools last year, and with very good results. It was the purpose of the Superintendent of Public Buildings to devote as much of his appropriation as would be necessary to make the same change in six or eight other cases during the coming vacation, also to make some much needed improvements in ventilation and heating; but, with the limited sum at his command, and especially in view of the unexpected but imperative outlay on the Gaston School, it is doubtful if much can be done in these matters this year, unless the City Council grant an additional appropriation for these urgent purposes. A great deal needs to be done to put the schools in good sanitary condition. Every old vault should be abolished and replaced by a latrine. Additional or entirely new ventilating-apparatus and heating facilities are imperatively demanded in many schools. These changes naturally involve the expenditure of a considerable amount of money; but it would be money well and wisely expended. It is to be regretted that the enforced economy which now prevails in our city affairs may interfere in securing the sanitary improvements

so vital to the health and safety of the pupils in the schools.

A word regarding urinals. The custom, until recently, was to build the trough of wood, and the floor of brick. This method is wrong in every way; but the greater number of schools have yet no better accommodation. Wood is the worst of all materials for this purpose. It is very absorbent, and immediately becomes foul and offensive. Bricks also are absorbent, and they and the earth beneath them become saturated, and remain so. In the new buildings slate or glass is used in trough, partitions (where they exist), walls, and floor. These are the proper materials, and ought to replace the old forms, which continue in many instances to be offensive and unhealthy.

Before leaving this subject, I wish to enter a respectful but earnest protest against a certain feature in the construction of urinals, which prevails to a great extent in the schools. The privacy that would conform to hygienic as well as moral principles has been, in too many cases, overlooked, and we have, in the majority of schools, instead of partitioned spaces, unbroken lengths of common trough, or portions of common floor-space for the accommodation of boys, which tends towards uncleanliness and the violation of good morals.

The subject of contagious diseases is one of intense interest in the management of schools. There is a group of certain infectious maladies, most of which affect children principally, and for whose suppression and eradication special State and school laws have been enacted. It stands to reason that, if perfect isolation could be secured in cases of contagious disease, propagation would be impossible. This is the principle that suggests and justifies quarantine. In dealing with the human subject, absolutely perfect isolation, it may be said, is unattainable; but every reasonable effort should be made to secure it, because it is the most efficacious means at our command to limit or to suppress contagious disease.

Hence, statute laws and school regulations have been framed to protect, if possible, school children (and, as a sequence, the community at large) from this class of diseases. The contagious diseases, most of which are especially incident to childhood, which can be readily disseminated through the medium of the schools, and to check the spread of which sanitary laws have been enacted, are small-pox, diphtheria, and scarlet fever.

It is happily true that we suffer little from small-pox, which is fast disappearing from civilized countries, — a fact due to vaccination, one of the greatest blessings ever conferred upon humanity through the science of medicine.

Diphtheria and scarlet fever are the most violent and most fatal forms of contagion amongst children; but there is another group of minor, though not less frequent, diseases incident to childhood, which are also readily contagious, viz.: measles, whooping-cough, and mumps. It is true that neither of these last-named maladies, if uncomplicated, is fatal; but the fact must not be lost sight of that the first two may, and occasionally do, induce complications which lead to serious consequences, and, sometimes, to a fatal termination; so that, in medical statistics, there is a death-rate attached to them. There can be no greater fallacy, and yet it is a not uncommon popular belief, that every child must have measles, and, therefore, there is no objection to exposing him to it. This doctrine is very unsound, in fact, absurd; for it is not true that every person is at some time afflicted with the disease. It is sometimes fatal, and not unfrequently develops serious and alarming symptoms. Our efforts should be to avoid it. On scientific grounds it ought to be treated in the schools like other severe contagions. If the same precautions and hygienic measures were taken in cases of measles that are observed in the presence of some of the other contagious diseases, it would not prevail as it does, and might be cut down to a low limit of frequency.

A peculiar feature in measles, and the great reason of its extensive propagation, is that, before the child afflicted with it is considered really sick, the contagious principle has already been communicated to others. During that period in the progress of this disease, when the characteristic eruption is developing, it is most contagious; but at that particular time the patient is usually isolated, at least from those outside his immediate family, and the danger of transmission is at a minimum. There is, however, another (earlier) stage when the contagion is very active and easily communicated, and that is when the child *begins* to show the symptoms of the disease, at which time he may be sitting in a school-room in the midst of fifty other children. The symptoms referred to, called catarrhal, are usually not intense, escape immediate recognition, and may continue for a day or two before being noticed by parents or teacher. Then, for the first time, the pupil is reported sick, and withdrawn from school. It is during this stage that the child exhales the contagious germs into the atmosphere of the room, which furnishes a ready medium of transmission to other children in the class. The catarrhal symptoms, — "soft" appearance of the eyes, discharge from the nose, sneezing, cough, — all these signs may be present for a day or two before they are recognized and their import appreciated. The child does not complain, and though the physician, if consulted, would realize the true condition, it is not to be expected that, as a rule, others could do so. This is the period, then, in the course of the disease, when it is propagated in the schools; and the great question is how to remedy the difficulty. In view of the lack of knowledge on the part of parents to recognize the early signs of the disease, and the usual mildness of the symptoms, which, apparently, do not demand medical advice, and the continuance, therefore, of the child in school at a time when he is liable to communicate the contagion to others, it is indeed difficult to prescribe means whereby the propaga-

tion of measles can be arrested in the schools. These remarks also apply with greater or less force to other contagious diseases amongst school children. If the general public could be instructed to practice greater watchfulness over the health of their children, and exercise the necessary precautions upon the first manifestation of morbid symptoms, such action would greatly conduce towards diminishing disease and mortality amongst their little ones.

It was thought advisable during the past year to subject cases of measles to the same restrictions as were applied to small-pox, diphtheria, and scarlet fever, and for that purpose the Regulation on that subject was amended, and reads as follows: —

No pupil shall be admitted to any of the public schools without a certificate of a physician that such pupil has been vaccinated, or is otherwise protected against the small-pox; but this certificate shall not be required of pupils who are transferred from one public school to another. No child sick with whooping-cough shall be allowed to attend school; nor shall any child be allowed to attend any school in the city while any member of the household to which such child belongs is sick with small-pox, diphtheria, scarlet-fever, or measles, or during a period of two weeks after the death, recovery, or removal of such sick person, such length of time being certified to in writing to the teacher by a physician or by the Board of Health. Whenever, by reason of the structure of tenement or other dwelling-houses, families live in close contact with one another so as to be practically as one family, the teachers and officers of the School Board shall regard such houses in which the families do not live apart, or are not removed from contagion, as one household, within the meaning of Chapter 64 of the Laws of 1884, and the Acts in addition thereto. When children are absent from school on account of sickness, and whenever the principal has reason to suspect the existence of contagious diseases in any household, he shall be authorized to exclude pupils from school until the cases can be properly investigated. The teachers shall exercise the greatest caution in sending pupils to the houses of absent pupils to ascertain the reasons for such absence, especially forbidding them to enter the houses to which they are sent. Pupils shall not be so sent where contagious diseases are believed to exist in the household of the absent pupils. The principal of any school, upon the receipt of information satisfactory to him that any

pupil attending a school under his charge has visited a household where, at the time of such visit, small-pox, diphtheria, scarlet-fever, or measles existed, shall suspend such pupil from school for a peried of two weeks next following such visit.

During the past year Boston has suffered from measles to a much greater extent than for several years previously. We have been visited by an epidemic which manifested considerable severity in some portions of the city. This fact, although known to the Board of Health, is not made fully apparent by the statistics. These statistics are carefully and correctly collated as far as the Board has knowledge; but, in the matter of measles, a large proportion of the cases are never reported, for the reason that medical advice is not sought. In the districts where this disease has prevailed, the attendance of pupils has been much reduced for a time by the enforcement of the Regulation which compels the absence of children in health, if they belong in families where a case of contagious disease exists. In some schools the diminution was very marked; and it is an open question whether the measures adopted have had any effect on the course or extent of the disease. On purely theoretical or scientific grounds, there is no doubt as to the propriety of the course which is pursued; but there are many considerations to be taken into account before finally deciding whether, on the whole, it is best to treat the subject of measles like that of the more dangerous and fatal diseases, diphtheria and scarlet fever. Further time and study of this question in the schools will assist in its solution.

In regard to the progress made in the study of physiology and hygiene, I am pleased to be able to make a favorable report. Last month a request was sent to the principals of grammar schools to allow all the pupils in their second classes (where this study is taught as a text-lesson) to write an essay on any one or two topics, not covering more than two pages of letter-paper. The pupils were allowed to choose

their own subjects. All the exercises were to be written on the same day, and *without any previous notice*. Between three and four thousand papers were prepared. All of these essays have not yet been examined; but a large proportion of them have been read, and with much satisfaction, except in a few instances. These exceptions are two or three cases, where the papers of the whole class bear internal evidence that the conditions were not strictly adhered to.

The interest manifested in this branch, and the facility with which pupils acquire a knowledge of the leading facts and laws regarding physical life, are gratifying. I venture to say there is no study taught in the schools more acceptable or more pleasing to the pupils. Physiology is the stepping-stone to hygiene, and the latter may be called, in common terms, the study of the laws of health. To impart a knowledge of the most important and readily comprehensible of these laws is the aim and object in the introduction of physiology and hygiene into school-work. Scientific technicalities are not required, and are not taught. Only the plain and easily understood portions of physiology are presented, and the pupil is not confused or embarrassed by the difficult problems of the science. From these simple and elementary truths, quite within the intellectual grasp of the pupil, a satisfactory and acceptable basis and *reason* are established for the hygienic laws he learns and is taught to observe. A few years' school instruction in this study cannot fail to produce a generation equipped with information, easily acquired, which will, if properly used, assist them in securing the greatest blessing they can have in this life, — perfect health and a good physical constitution.

Respectfully,

JOHN B. MORAN,
Instructor in Hygiene.

SCHOOL DOCUMENT NO. 13—1887.

CATALOGUE

OF THE

BOSTON NORMAL SCHOOL

FOR THE YEAR

1887.

BOSTON:
ROCKWELL AND CHURCHILL, CITY PRINTERS,
No. 39 ARCH STREET.
1887.

SCHOOL COMMITTEE.

1887.

Term expires January, 1888.

Francis A. Walker,	Samuel Eliot,
John W. Porter,	A. Gaston Roeth,
John G. Blake,	Joseph D. Fallon,
Russell D. Elliott,	George R. Swasey.

Term expires January, 1889.

William C. Williamson,	Bordman Hall,
William A. Dunn,	Edwin H. Darling,
Timothy J. Dacey,	Raphael Lasker,
Henry Canning,	George B. Hyde.

Term expires January, 1890.

Charles T. Gallagher,	John C. Crowley,
James S. Murphy,	Richard J. Walsh,
James A. McDonald,	William H. Grainger,
Gerald Griffin,	Nahum Chapin.

COMMITTEE ON THE NORMAL SCHOOL.

George B. Hyde, *Chairman.*

James S. Murphy, *Secretary.*

Francis A. Walker, Wm. C. Williamson,

Timothy J. Dacey.

BOSTON NORMAL SCHOOL.

TEACHERS.

LARKIN DUNTON, Head-Master, Allston, Mass.

L. Theresa Moses, *First Assistant.*
Annie E. Chace, *Second Assistant.*
Katherine H. Shute, *Second Assistant.*
W. Bertha Hintz, *Special Teacher.*
Henry Hitchings, *Teacher of Drawing.*
Hosea E. Holt, *Teacher of Music.*

RICE TRAINING SCHOOL.

GRAMMAR DEPARTMENT.

DELWIN A. HAMLIN, Principal.

Charles F. Kimball, *Sub-Master.*
Joseph L. Caverly, *Sub-Master.*
Martha E. Pritchard, *First Assistant.*
Florence Marshall, *Second Assistant.*

Third Assistants.

Ella T. Gould,
Eliza Cox,
Harriet H. Norcross,
Dora Brown,
Mattie H. Jackson,
Lizzie M. Burnham.

PRIMARY DEPARTMENT.

Ella F. Wyman, *2d Asst.*
Sarah E. Bowers,
Anna B. Badlam,
Gertrude E. Bigelow,
Grace Hooper,
Mabel I. Emerson,
Emma L. Wyman,
Clara C. Dunn.

REGULATIONS ADOPTED BY THE SCHOOL BOARD.

SECTION 1. The Boston Normal School is established for the purpose of giving professional instruction to young women who intend to become teachers in the public schools of Boston.

SECT. 2. The head-master shall be a graduate of a college in good standing. He shall have a first assistant, and as many second assistants as may be necessary, provided the whole number of teachers, exclusive of the head-master, shall not exceed one for every thirty pupils. An additional instructor may be elected for an excess of twenty pupils, and one may be removed for a deficiency of twenty. The salary of the instructors of the several ranks in the Normal School shall be established at a minimum rate for the first year of service, with an annual increase during the succeeding five years, so that the maximum salary shall be reached for the sixth and each subsequent year of service. The committee in charge may recommend, and the Committee on Nominations, if they deem it advisable, may nominate an instructor in the Normal School, whose term of service shall begin with the salary of any year after the first, except the last, in the series of years for the grade, and the salary of any such instructor, if the nomination be confirmed, shall be annually increased in the same manner as if the candidate had served during the preceding years of such term. Special instruction in music and drawing shall be given in this school, under the direction of the committee on these departments.

SECT. 3. Candidates for admission must be at least eighteen years of age, unless an exception is made by a special vote of the committee in charge, and must be recommended for admission by the master or committee of the last school they attended. Those who have completed the fourth year of the High-School course will be admitted without examination. Other candidates must show to the head-master, both by examination and recommendation, that they are qualified. All pupils shall be put on probation, and, as soon as, in the opinion of the Board of Supervisors and the head-master, they prove unsuitable for this school, shall be discharged by the committee on the school, if they deem proper; the probation to cease at the end of the half year. No pupil who has attended the school for more than a half year shall return a second year without special permission from the committee in charge.

SECT. 4. The Board of Supervisors shall, from time to time, examine the pupils in the Normal School, and at the close of the school year shall submit the results of such examinations, with their recommendations, to the Committee on Examinations, who shall award the diplomas.

SECT. 5. A diploma of graduation from the Normal School, issued after the year 1872, shall entitle the holder to receive a fourth-grade certificate of qualification. When teachers are to be employed in the public schools, graduates of this school shall have the preference, other things being equal.

SECT. 6. The text-books used in this school shall be such of the text-books used in the other public schools of the city as are needed for the course of study, and such others as shall be authorized by the Board.

SECT. 7. This school shall begin on the first Monday in September; and shall close on such day of the week preceding the Fourth of July, and with such exercises as the committee on the school may direct.

SECT. 8. The head-master shall annually make a report to the committee in charge, which, under their direction, shall, in whole or in part, be printed, with a catalogue of the school, and be sent to the members of the School Committee and of the Board of Supervisors, the principals of schools, and the members of the graduating classes of High Schools.

SECT. 9. When a graduate of this school is appointed as teacher in any public school of this city it shall be the duty of the head-master to make, or cause to be made by his assistants, one or more visits to her school, for the purpose of criticism and suggestion in regard to her teaching.

SECT. 10. Such instruction shall be given, in connection with the Normal School, to teachers in the employ of the city, as the committee in charge may direct.

SECT. 11. The head-master shall send the Normal pupils into the public schools for observation and practice in teaching, under his direction, for not less than six weeks of each school year; and he may send them, under proper guidance, to study the museums of Natural History and Fine Arts, and important manufacturing industries.

Sect. 12. There shall be a post-graduate course of one year in this school, for the study of the principles of education and methods of instruction, and for observation and practice in teaching; and pupils attending this course may be employed as substitutes, or temporary teachers, or appointed as permanent teachers.

Sect. 13. The course of study in this school is all pursued with special reference to teaching, and is as follows: —

1. Mental and Moral Science and Logic.
2. Principles of Education, School Economy, and Methods of Instruction.
3. Physiology and Hygiene.
4. Natural Science.
5. Study of Language.
6. Elementary Studies.
7. Vocal Music, Drawing and Black-board Illustration.
8. Observation and Practice in the Training School.
9. Observation and Practice in the other public schools.

TRAINING DEPARTMENT.

Sect. 14. The Rice Training School is intended to give the pupils of the Normal School a practical knowledge of the methods of instruction and discipline in the public schools of Boston.

Sect. 15. The Committee on the Normal School shall have charge of the Training School.

Sect. 16. The head-master of the Normal School shall have the direction of the observation, practice, and methods of instruction in the Training School, subject to the approval of the committee in charge.

Sect. 17. The principal of the Training School shall perform, in that school, the usual duties of master of a Grammar School, and such duties in connection with the Normal School as the committee in charge may direct.

Sect. 18. The number and rank of teachers other than principal, and the course of study, in the Training School shall be the same as in the Grammar and Primary Schools of the city.

TRAINING SCHOOL.

In 1876 the Rice District was constituted a Training School, where the Normal pupils have an opportunity of gaining, by observation and practice, a familiar acquaintance with the discipline and instruction of the Boston schools. The Training School contains twelve Grammar and eight Primary classes, numbering over a thousand pupils.

LOCATION.

The Normal School occupies the upper floor of the school-house on Dartmouth street; and the Training School the first and second floors of that building, and also the school-house on Appleton street.

CONDITIONS OF ADMISSION.

A certificate that a candidate has completed the fourth year of the High-School course is accepted as proof of qualification for admission. The course of study in the Boston High Schools embraces the following subjects: Composition; Rhetoric; English Literature; Ancient, Mediæval, and Modern History; Civil Government; Botany; Zoölogy; Anatomy and Physiology; Chemistry; Physics; Astronomy; Arithmetic, including the Metric System; Algebra; Geometry; Plane Trigonometry; Latin, or French, or German; Vocal Music, and Drawing. Candidates who have not completed the fourth year of the Boston High-School course will be examined on this, or its equivalent. An examination of such candidates will be held at the school-house, on Dartmouth street, the first Monday in September, at 9 o'clock A.M. Those who have completed the fourth year of the Boston High-School course will present themselves with their diplomas on that day.

TUITION.

The rule of the School Board in regard to the payment of tuition by non-resident pupils, applicable to the Normal School as well as the other public schools of the city, is as follows:—

"All children living in the city who are upwards of five years of age, and are not disqualified by non-compliance with the regulations of the Board, shall be entitled to attend the public schools; but neither a non-resident pupil, nor one who has only a temporary residence in the city, shall be allowed to enter or to remain in any school, unless the parent, guardian, or some other responsible person has signed an agreement to pay the tuition of such scholar, or until a certified copy of a vote of the Committee on Accounts permitting such scholar to attend the school has been transmitted to the principal." The tuition for the year 1886–87 will be about seventy-six dollars.

NECESSITY FOR ATTENDANCE.

The following extracts from the Regulations of the Public Schools of the City of Boston will show the relation of the Normal School to the work of teaching in Boston: —

"The Board of Supervisors shall not admit to an examination [of applicants for situations as teachers] any person who is not a graduate of the Boston Normal School or of one of the State Normal Schools, unless such person has had at least one year's experience in teaching school."

"The Board of Supervisors shall grant certificates of qualification for the several grades, after examination, to such candidates as they shall consider entitled to them, as follows: —

"*First Grade.* — To head-masters, masters, and junior-masters of the Normal and High Schools, and principals of Evening High Schools.

"*Second Grade.* — To masters and sub-masters of Grammar Schools, principals of Evening Elementary Schools, and assistants of Evening High Schools.

"*Third Grade.* — To assistant principals and assistants of the Normal and High Schools.

"*Fourth Grade.* — To assistants of Grammar, Primary, and Evening Elementary Schools.

"*Special Grade.* — To instructors in special studies, and in Schools for the Deaf.

"No instructor shall be employed in any higher grade of schools

than that for which the certificate shall qualify the holder thereof; and no instructor whose certificate is not recorded in the office of the Committee on Accounts shall be entitled to draw any salary as a teacher or as a substitute; and the auditing clerk shall not allow the name of any such teacher or substitute to be entered or to remain on the pay-rolls."

VACATION.

The vacation and holidays of this school are as follows: — Every Saturday; one week commencing with Christmas day; New Year's day; the twenty-second of February; Good Friday; Fast day; Decoration day; the half day before Thanksgiving day and remainder of the week; the week immediately preceding the second Monday in April; and from the close of the school, the week preceding the Fourth of July, to the first Monday in September.

TIME OF ADMISSION.

Only one class is admitted to this school during the year, and that is admitted at the beginning of the school year. Pupils are not received at other times. The work of the school is so conducted that it is impossible for pupils to make up lessons lost at the beginning of the term, so that it is necessary for all who desire to enter during the year to be present at the opening of the school in September.

The Post-Graduate Class will be organized the second Thursday in September, at three o'clock in the afternoon.

GRADUATES

OF THE

BOSTON NORMAL SCHOOL.

Class of 1887.

B., Brighton; C., Charlestown; D., Dorchester; J.P., Jamaica Plain; R., Roxbury; S.B., South Boston; W.R., West Roxbury; E.B., East Boston.

Name.	Residence.
Adams, Margaret J.	*27 Dorr Street, R.*
Aubin, Agnes A.	*Cor. Everett & Pleasant Streets, Allston.*
Barnes, Bessie L.	*71 Harvard Street, Brookline.*
Bates, Alice L.	*Waltham, Mass.*
Bates, Emma M.	*44 Saratoga St., E.B.*
Blaney, Annette S.	*Park Street, D.*
Canning, Helen M.	*Dedham.*
Carey, Margaret E.	*Auburndale.*
Carr, Louise L.	*Everett Street, D.*
Clapp, Mary M.	*18 Atlantic Street, S.B.*
Coe, Fanny E.	*Amory Street, J.P.*
Condon, Ida M.	*128 F Street, S.B.*
Cotton, Eva M.	*Warren Street, Brighton.*
Desmond, Elizabeth G.	*11 School Street, C.*
Dike, Miriam W.	*248 Newbury Street.*
Emmel, Laura	*128 Otis Street, E. Cambridge.*
English, Mabel A.	*Cambridge Street, Allston.*
Flanagan, Agnes G.	*11 Malden Street, C.*
Herlihy, Agnes A.	*32 Winthrop Street, C.*
Higgins, Mary A.	*117 Cabot Street, R.*

Hilton, Lillian S.	*3 Dimock Street, R.*
Hobbs, Helen E.	*613 E. Ninth Street, S. B.*
Holbrook, Grace E.	*581 E. Ninth Street, S. B.*
Holden, Edith J.	*Reading, Mass.*
Hudson, Agnes B.	*291 Dudley Street, R.*
Hyde, Anastasia G.	*534 Sixth Street, S. B.*
Jones, Bessie C.	*Cor. High and Highland Streets, Meeting-house Hill, D.*
Keefe, Katharine J.	*26 Cunard Street, R.*
Leatherbee, Hattie C.	*Allston.*
Levi, Jane C.	*149 Charles Street.*
Lincoln, Minnie B.	*690 Shawmut Avenue, Suites.*
Manson, Florence K.	*78 H Street, S. B.*
Manson, Henrietta S.	*47 Saratoga Street, E. B.*
Marden, Margaret F.	*36 Gray Street.*
McElwain, Nellie G.	*102 Chandler Street.*
McGrath, Esther E.	*64 George Street, R.*
McGuire, Margaret A.	*78 Hampshire Street, R.*
Mitchell, Emma L.	*10 Mill Street, C.*
Mitchell, Margaret D.	*86 Tremont Street, C.*
Mulloney, J. Gertrude	*12 Brookline Street, Cambridge.*
Niland, Kate L.	*370 Bremen Street, E. B.*
O'Dowd, Margaret A. M.	*4 Baldwin Place.*
O'Hea, Martha T.	*423 Main Street, C.*
Osborne, Emily H.	*10 Melrose Street.*
Peirce, Bertha	*929 E. Fourth Street, S. B.*
Power, Lura M.	*583 Broadway, S. B.*
Reid, Minnie V.	*Park Street, Cambridgeport.*
Risteen, Helen E.	*Clarendon Hotel, 523 Tremont Street.*
Rogers, Lillian E.	*Newtonville.*
Roome, Mary F.	*Clarendon Hills, Hyde Park.*
Shaw, Alice H.	*20 Pacific Street, Rockland.*
Smith, Alice M.	*17 Spring Garden Street, D.*
Spence, Ada A.	*321 Columbus Avenue.*
Stuntz, Sarah E.	*Newton Upper Falls.*
Sullivan, Katharine C.	*18 Hudson Street.*
Symonds, Myrtie B.	*9 St. James Street, R.*

Tash, Elizabeth S.	*31 Gray Street.*
Tiernay, Kate V.	*110 Tyler Street.*
Watson, Agnes A.	*7 Auburn Street, R.*
Weeks, Ida T.	*161 Roxbury Street, R.*
Williams, Augusta G.	*28 Highland Park Avenue, R.*
Woods, Helen A.	*14 Oscar Street, R.*

Number of graduates in 1887	62
Number of previous graduates	828
Total	890

SCHOOL DOCUMENT NO. 14 — 1887.

SEMI-ANNUAL STATISTICS

OF THE

PUBLIC SCHOOLS.

JUNE, 1887.

BOSTON:
ROCKWELL AND CHURCHILL, CITY PRINTERS,
No. 39 ARCH STREET.
1887.

SCHOOL CENSUS. — *May, 1887.*

Number of children in Boston between the ages of 5 and 15 70,090
Number attending public schools 54,426
" " private schools 7,912

Whole number of different pupils registered in the public schools during the year 1886–87: Boys, 34,263; Girls, 31,166. Total, 65,429.

EXPENDITURES. — *1886-87.*

Salaries of officers	$55,739 67
" " teachers	$1,213,806 24

Incidental Expenses.

By School Committee	$214,394 67
From Income Gibson Fund	1,402 71
By Committee on Public Buildings	163,111 38
School-houses and lots	133,608 78
Total expenditures	$1,782,063 45

INCOME.

School Committee	$33,388 28
City Council	11,580 97
Total income	$44,969 25
Net expenditures for public schools	$1,737,094 20

SUMMARY.

June, 1887.

General Schools.	No. Schools.	No. of Teachers.	Average No. Pupils Belonging.	Average Attendance.	Average Absence.	Per cent. of Attendance.	No. at date.
Normal	1	5	79	73	6	93.	69
Latin and High	10	102	2,604	2,442	162	93.8	2,508
Grammar	52	682	29,969	27,195	2,774	90.7	28,382
Primary	464	464	24,186	20,624	3,562	86.	24,343
Totals	527	1,253	56,838	50,334	6,504	88.6	55,202

Special Schools.	No. Schools.	No. of Teachers.	Average No. Pupils Belonging.	Average Attendance.	Average Absence.	Per cent. of Attendance.	No. at date.
Horace Mann	1	9	74	63	11	85.	75
Evening High	1	19	1,232	988	....	....	....
Evening	14	90	1,862	1,115	....	....	....
Evening Drawing	5	23	521	463	....	....	....
Spectacle Island	1	1	17	15	....	....	....
Totals	22	142	3,706	2,644	....	....	....

SCHOOLS AND TEACHERS.

	Teachers.		
	Males.	Females.	Total.
Normal School	1	3	4
Latin School	13	.....	13
English High School	19	.....	19
Girls' High School	1	20	21
Girls' Latin School	1	5	6
Roxbury High School	2	5	7
Dorchester High School	2	4	6
Charlestown High School	1	6	7
West Roxbury High School	1	3	4
Brighton High School	1	2	3
East Boston High School	1	4	5
Grammar Schools	98	548	646
Primary Schools	.....	464	464
Totals	141	1,064	1,205

SPECIAL SCHOOLS AND TEACHERS.

Schools.	Males.	Females.	Total.
Horace Mann School	.....	9	9
Evening Schools	53	56	109
Evening Drawing Schools	16	7	23
French and German: High Schools	3	.....	3
Music: High, Grammar, and Primary Schools	5	.....	5
Illustrative Drawing, Normal School	.....	1	1
Drawing: High and Grammar Schools	1	.....	1
Instructor in Hygiene	1	.....	1
Sewing	.....	30	30
Chemistry: Girls' High School	.....	1	1
Laboratory Assistant: Girls' High School	.....	1	1
Vocal and Physical Culture: Girls' High School	.....	1	1
Vocal and Physical Culture: Girls' Latin School	.....	1	1
Military Drill: High Schools	1	.....	1
Instructor in Manual Training School	1	.....	1
Instructor in Cooking School	.....	1	1
Spectacle Island	.....	1	1
Totals	81	109	190

NORMAL AND HIGH SCHOOLS.

Semi-Annual Returns to June 30, 1887.

Schools.	Average whole Number.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Head-Masters.	Masters.	Junior Masters.	Asst. Principals.	First Assistants.	Second Assts.	Assistants.
	Boys.	Girls.	Total.	Boys.	Girls.	Total.									
Normal	...	79	79	..	73	73	6	93.	1	.	.	.	1	2	.
Latin	392	...	392	375	...	375	17	96.	1	7	5	.	.	.	.
Girls' Latin	...	139	139	..	127	127	12	91.	.	1	.	.	.	.	5
English High	578	...	578	547	...	547	31	95.	1	9	9	.	.	.	.
Girls' High	...	636	636	..	594	594	42	94.	1	.	.	1	1	.	18
Roxbury High	79	154	233	76	141	217	16	94.	1	.	.	.	1	.	5
Dorchester High	45	95	140	42	85	127	13	92.	.	1	.	.	1	.	4
Charlestown High	58	146	204	55	134	189	15	93.	1	.	.	.	.	.	6
West Roxbury High	24	56	80	23	52	75	5	93.	.	1	.	.	.	.	3
Brighton High	22	41	63	20	38	58	5	92.	.	1	.	.	.	.	2
East Boston High	61	78	139	59	74	133	6	96.	.	1	.	.	.	.	4
Totals	1,259	1,424	2,683	1,197	1,318	2,515	168	95.9	6	21	14	1	4	2	47

NORMAL, LATIN, AND HIGH SCHOOLS, CLASSIFICATIONS AND AGES, JUNE 30, 1887.

	First-year class.	Second-year class.	Third-year class.	Fourth-year class.	Fifth-year class.	Sixth-year class.	Whole number at date.	11 years.	12 years.	13 years.	14 years.	15 years.	16 years.	17 years.	18 years.	19 years.	20 years.	21 years and over.
Normal	62	7	...	...	...	...	69	...	...	...	...	...	...	...	7	18	25	19
Latin	117	87	60	57	45	42	[1] 451	2	20	55	80	105	73	46	46	14	8	2
Girls' Latin	25	35	23	12	12	13	120	...	5	18	15	23	19	20	9	5	6	...
English High	215	184	143	7	...	...	549	...	...	4	42	114	178	122	72	15	1	1
Girls' High	236	129	126	103	...	...	594	...	...	1	15	83	134	142	121	52	38	8
Roxbury High	99	75	49	...	...	...	223	...	...	2	13	43	65	61	32	7	...	...
Dorchester High	47	52	33	...	...	...	132	...	...	...	5	22	48	38	15	2	2	...
Charlestown High	80	55	43	...	...	...	178	...	...	...	3	35	49	50	31	9	1	...
West Roxbury High	59	40	31	...	...	...	130	...	...	...	3	25	30	36	29	7	...	...
Brighton High	29	26	17	...	...	...	72	...	...	...	5	11	23	22	6	5	...	...
East Boston High	31	15	13	...	...	...	59	...	...	...	...	11	19	13	12	4	...	...
Totals	1,000	705	538	179	57	55	2,577	2	25	80	181	472	638	550	380	138	81	30
Percentages	38.8	27.4	20.8	7.	2.2	2.1	100	.08	.97	3.1	7.02	18.32	24.76	21.34	14.75	5.36	3.14	1.16

[1] Including 43 pupils in out-of-course class.

NORMAL AND HIGH SCHOOLS.

Number of Pupils to a Teacher, excluding Principals.

Schools.	No. of Reg. Teachers.	Average No. of Pupils.	Average No. of Pupils to a Regular Teacher.
Normal	3	79	26.3
Latin	12	392	32.7
Girls' Latin	5	139	27.8
English High	18	578	32.1
Girls' High	20	636	31.8
Roxbury High	6	233	38.8
Dorchester High	5	140	28.0
Charlestown High	6	204	34.0
West Roxbury High	3	80	26.7
Brighton High	2	63	31.5
East Boston High	4	139	34.7
Totals	84	2,683	31.9

Graduates, June, 1887.

Schools.	Regular Course.	Four years' Course.	Total.
Normal	62	.....	62
Latin	41	.....	41
Girls' Latin	13	.....	13
English High	134	.....	134
Girls' High	116	92	208
Roxbury High	47	.....	47
Dorchester High	31	.....	31
Charlestown High	42	.....	42
West Roxbury High	16	.....	16
Brighton High	12	.....	12
East Boston High	29	.....	29
Totals	543	92	635

EVENING SCHOOLS.

October, 1886 — March, 1887.

Schools.	Number of Sessions.	Whole No. Registered.	Average No. Belonging.	Average Attendance.			Av. No. Teachers, including Principal.	Av. No. Pupils to a Teacher, exc. Principal, per evening.
				Males.	Females.	Total.		
High	107	1,871	1,232	579	409	988	19	28
Allston School, Allston.	43	84	77	27	7	34	3	18
Anderson Street . . .	101	145	94	23	18	41	3	18
Bigelow School, S.B. .	107	349	125	61	40	101	8	14
Comins School, Rox. .	107	331	149	70	21	91	8	14
Dearborn School, Rox.	107	246	88	40	25	65	5	15
Eliot School	107	404	204	73	41	114	9	14
Franklin School . . .	107	570	266	74	79	153	11	16
Lincoln School, S.B. .	107	217	96	43	17	60	5	15
Lyman School, E.B. .	107	350	215	78	22	100	8	15
Quincy School	107	214	117	65	25	90	8	13
Sherwin School, Rox.	82	60	44	30	6	36	3	24
Warren School, Ch'n .	107	364	130	64	24	88	8	13
Warrenton Street . . .	64	131	118	28	18	46	3	22
Wells School	104	484	139	61	35	96	8	15
Totals	1,464	5,820	3,094	1,316	787	2,103	109	17

EVENING DRAWING SCHOOLS.

Schools.	Number of Sessions.	Whole No. Registered.	Average No. Belonging.	Average Attendance.			Av. No. Teachers, including Principal.	Av. No. Pupils to a Teacher, exc. Principal.
				Males.	Females.	Total.		
Charlestown	65	143	81	60	12	72	4	24
East Boston	65	172	86	65	12	77	4	26
Roxbury	65	151	96	78	9	87	4	31
Tennyson Street . . .	65	236	135	123	0	123	6	25
Warren Avenue . . .	65	174	123	65	39	104	5	26
Totals	325	876	521	391	72	463	23	26

GRAMMAR SCHOOLS.

Semi-Annual Returns to June 30, 1887.

Schools.	Average whole Number.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Masters.	Sub-Masters.	1st Assistants.	2d Assistants.	3d Assistants.
	Boys.	Girls.	Total.	Boys.	Girls.	Total.							
Adams	362	161	523	324	143	467	56	89.	1	1	1	1	7
Agassiz	332	. . .	332	300	. . .	300	32	90.	1	.	1	1	4
Allston	261	253	514	242	224	466	48	91.	1	.	1	2	8
Andrew	381	316	697	353	290	643	54	92.	1	1	2	2	9
Bennett	251	280	531	236	259	495	36	94.	1	.	1	2	7
Bigelow	801	. . .	801	752	. . .	752	49	94.	1	2	1	1	11
Bowdoin	. . .	357	357	. . .	318	318	39	89.	1	.	1	2	6
Brimmer	662	. . .	662	597	. . .	597	65	90.	1	2	1	1	10
Bunker Hill	278	353	631	259	322	581	50	92.	1	1	2	2	6
Chapman	294	324	618	278	303	581	37	94.	1	1	2	2	7
Charles Sumner	206	190	396	185	170	355	41	90.	1	.	1	1	6
Comins	282	336	618	258	298	556	62	90.	1	1	2	1	7
Dearborn	479	501	980	437	451	888	92	90.	1	1	2	3	13
Dillaway	. . .	660	660	. . .	575	575	85	87.	1	.	2	3	7
Dorchester-Everett	322	331	653	293	293	586	67	90.	1	1	1	2	9
Dudley	709	. . .	709	663	. . .	663	46	94.	1	2	1	1	10
Dwight	667	. . .	667	624	. . .	624	43	93.	1	2	1	1	9
Eliot	970	. . .	970	837	. . .	837	133	86.	1	3	1	1	15
Emerson	370	269	639	343	246	589	50	92.	1	1	2	2	8
Everett	. . .	701	701	. . .	655	655	46	94.	1	.	2	3	9
Franklin	. . .	643	643	. . .	585	585	58	91.	1	.	2	3	9
Frothingham	291	286	577	261	249	510	67	88.	1	1	2	2	7
Gaston	. . .	491	491	. . .	439	439	52	89.	1	.	2	2	6
George Putnam	155	143	298	145	132	277	21	93.	1	.	1	1	4
Gibson	213	214	427	198	188	386	41	90.	1	1	1	1	8
Hancock	. . .	523	523	. . .	463	463	59	88.	1	.	2	3	7
Harris	144	150	294	133	133	266	28	90.	1	.	.	2	4
Harvard	322	299	621	296	266	562	60	91.	1	1	2	2	7

GRAMMAR SCHOOLS. — *Continued.*

Schools.	Average whole Number.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Masters.	Sub-masters.	1st Assistants.	2d Assistants.	3d Assistants.
	Boys.	Girls.	Total.	Boys.	Girls.	Total.							
Hillside	. . .	356	356	. . .	314	314	42	88.	1	.	1	1	4
Hyde	. . .	595	595	. . .	538	538	57	90.	1	.	2	2	8
Lawrence	974	. . .	974	926	. . .	926	48	95.	1	3	1	1	13
Lewis	333	344	677	310	314	624	53	92.	1	1	2	2	8
Lincoln	844	. . .	844	782	. . .	782	62	93.	1	2	1	1	12
Lowell	349	330	679	309	287	596	83	88.	1	1	1	2	9
Lyman	416	168	584	379	149	528	56	90.	1	1	2	2	7
Martin	253	342	595	234	312	546	49	92.	1	1	2	2	7
Mather	223	226	449	198	193	391	58	87.	1	1	1	1	6
Minot	151	146	297	139	131	270	27	91.	1	.	.	2	5
Mt. Vernon	91	100	191	82	88	170	21	89.	.	1	1	1	3
Norcross	. . .	682	682	. . .	619	619	63	91.	1	.	2	3	9
Phillips	694	. . .	694	639	. . .	639	55	92.	1	2	1	1	10
Prescott	224	245	469	209	224	433	36	92.	1	1	1	1	6
Prince	262	226	488	229	191	420	68	86.	1	1	1	1	6
Quincy	548	. . .	548	483	. . .	483	65	88.	1	2	1	1	8
Rice	592	. . .	592	550	. . .	550	42	93.	1	2	1	1	6
Sherwin	578	. . .	578	522	. . .	522	56	90.	1	1	1	1	8
Shurtleff	. . .	680	680	. . .	607	607	73	89.	1	.	2	3	8
Stoughton	172	157	329	148	131	279	50	85.	1	.	1	1	4
Tileston	39	37	76	36	32	68	8	90.	.	.	1	.	1
Warren	328	342	670	311	321	632	38	94.	1	1	2	2	8
Wells	. . .	442	442	. . .	397	397	45	90.	1	.	2	1	6
Winthrop	. . .	947	947	. . .	845	845	102	89.	1	.	2	5	11
Totals	15,823	14,146	29,969	14,500	12,695	27,195	2,774	90.7	50	43	72	88	393

GRAMMAR SCHOOLS.

Number of Pupils in each Class, Whole Number, and Ages, June 30, 1887.

Schools.	First Class.	Second Class.	Third Class.	Fourth Class.	Fifth Class.	Sixth Class.	Ungraded Class.	Whole number.	Under eight years.	Eight years.	Nine years.	Ten years.	Eleven years.	Twelve years.	Thirteen years.	Fourteen years.	Fifteen years.	Sixteen years.	Seventeen years.	Eighteen years and over.
Adams	35	57	93	103	100	111	. . .	499	. . .	9	32	64	84	105	89	63	35	15	2	1
Agassiz	25	28	46	79	72	61	. . .	311	. . .	2	27	38	54	62	52	46	22	6	2	. . .
Allston	41	39	101	94	101	124	. . .	500	. . .	12	47	82	78	89	73	53	40	22	4	. . .
Andrew	40	49	79	91	233	158	. . .	650	. . .	10	48	94	115	115	116	86	40	17	9	. .
Bennett	38	46	98	109	108	115	. . .	514	. . .	10	36	81	83	99	74	71	34	17	9	. . .
Bigelow	50	46	93	182	207	166	. . .	744	. . .	17	62	130	142	141	122	71	45	13	1	. . .
Bowdoin	27	31	64	41	80	79	. . .	322	. . .	. . .	10	31	43	68	49	58	33	16	9	5
Brimmer	33	43	91	92	136	187	42	624	. . .	10	60	83	120	128	92	62	47	14	8	. . .
Bunker Hill	42	41	88	94	140	153	35	593	. . .	3	33	80	100	127	113	77	38	20	1	1
Chapman	47	51	89	98	156	160	. . .	601	. . .	19	55	70	103	81	89	69	64	31	18	2
Charles Sumner	26	26	38	78	101	118	. . .	387	. . .	2	29	55	63	85	64	53	25	8	3	. . .
Comins	46	95	84	93	161	117	. . .	596	. . .	1	39	63	127	125	89	80	47	20	5	. . .
Dearborn	54	100	138	163	207	226	49	937	1	6	48	124	145	176	194	123	86	28	6	. . .
Dillaway	45	73	112	148	112	115	. . .	605	. . .	7	37	76	94	132	89	81	55	22	12	. . .
Dorchester-Everett	45	54	108	116	132	136	39	630	. . .	3	31	90	114	108	105	84	67	23	5	. . .
Dudley	53	79	96	104	153	159	28	672	. . .	4	36	88	125	155	124	70	49	17	2	2
Dwight	46	88	99	146	107	105	43	634	. . .	6	31	95	97	112	121	84	55	21	10	2
Eliot	34	85	116	161	203	206	124	929	6	14	57	137	182	201	165	114	37	13	3	. . .
Emerson	40	65	95	103	116	146	37	602	. . .	3	21	82	96	129	120	74	41	27	8	1
Everett	53	93	153	101	132	111	21	664	. . .	4	34	75	101	120	126	93	61	35	14	1
Franklin	40	77	85	112	118	125	. . .	557	. . .	4	24	64	106	101	105	70	52	23	6	2
Frothingham	39	39	84	89	95	151	34	531	. . .	1	18	65	116	125	87	83	24	9	3	. . .
Gaston	40	41	56	91	110	56	. . .	394	. . .	. . .	14	40	63	67	69	56	50	26	9	. . .

George Putnam . . .	22	62	50	47	54	56	. . .	291	. . .	3	21	56	53	40	47	38	19	10	4	. . .
Gibson	35	56	65	81	96	87	. . .	420	. . .	4	19	62	67	63	78	65	45	13	4	. . .
Hancock	31	35	45	87	80	122	85	485	. . .	12	49	81	98	81	64	58	24	10	6	2
Harris	23	33	37	36	45	76	. . .	250	. . .	5	21	32	40	42	30	38	28	10	3	1
Harvard	50	75	102	101	105	107	36	576	. . .	11	23	29	79	133	124	102	47	24	4	. . .
Hillside	28	59	46	51	82	73	. . .	339	. . .	2	14	46	56	65	53	31	31	7	3	1
Hyde	36	37	132	100	99	148	38	590	. . .	10	39	79	103	121	88	76	51	16	6	1
Lawrence	54	95	115	192	199	213	40	908	1	21	89	159	166	166	144	89	58	14	1	. . .
Lewis	91	101	94	104	104	166	. . .	660	. . .	2	15	74	122	134	119	98	51	34	8	3
Lincoln	52	84	93	150	156	243	41	819	. . .	3	49	121	154	156	146	102	58	26	3	1
Lowell	60	71	89	103	161	173	. . .	657	. . .	10	45	104	1 3	138	103	65	40	8	1	. . .
Lyman	27	43	64	74	145	158	38	549	7	12	26	85	101	107	101	51	34	18	5	2
Martin	42	80	97	100	125	133	. . .	577	. . .	11	41	69	115	107	89	63	44	29	9	. . .
Mather	33	51	45	102	97	105	. . .	433	1	3	22	58	74	68	83	69	37	17	1	. . .
Minot	24	38	39	61	49	93	. . .	304	1	15	25	40	48	50	49	41	26	7	2	. . .
Mt. Vernon	22	22	21	33	44	47	. . .	189	. . .	2	7	34	34	42	23	26	18	2	1	. . .
Norcross	39	32	85	115	149	207	. . .	627	2	19	52	98	110	125	100	55	32	22	12	. . .
Phillips	38	46	86	133	149	155	30	637	. . .	4	34	95	105	141	101	87	43	21	5	1
Prescott	34	54	47	109	125	117	. . .	486	. . .	1	24	56	86	93	88	67	38	30	3	. . .
Prince	50	53	105	100	80	82	. . .	470	. . .	1	19	44	77	81	85	78	58	21	6	. . .
Quincy	31	37	90	93	93	154	18	516	. . .	5	55	71	111	106	87	59	16	5	1	. . .
Rice	43	51	97	133	103	111	28	566	. . .	10	36	74	103	109	98	62	50	17	7	. . .
Sherwin	28	45	84	98	103	145	25	528	. . .	15	50	66	88	119	75	55	35	22	2	1
Shurtleff	56	49	85	97	198	161	. . .	646	. . .	10	57	93	120	118	104	76	47	16	5	. . .
Stoughton	19	51	50	66	61	72	. . .	319	1	10	30	48	42	56	48	52	23	6	1	2
Tileston	6	7	17	13	11	23	. . .	77	. . .	1	10	13	14	13	9	11	4	2	. . .	. . .
Warren	43	58	101	151	121	162	35	671	1	2	43	73	111	123	126	98	56	26	10	2
Wells	32	43	42	78	81	108	30	414	1	3	22	59	70	81	69	61	24	18	6	. . .
Winthrop	59	92	99	215	166	213	38	882	2	14	86	140	151	153	134	104	60	31	7	. . .
Totals	2,047	2,906	4,228	5,311	6,161	6,795	934	28,382	24	368	1,852	3,866	4.992	5,482	4,792	3,628	2,144	925	275	34
Per cents	7.2	10.2	14.9	18 7	21.7	24.	3.3	100.	.08	1.3	6.53	13.62	17.59	19.32	16.88	12.78	7.55	3.26	.97	.12

GRAMMAR SCHOOLS.

Number of Pupils to a Teacher, excluding Principals, June, 1887.

Schools.	No. of Teachers.	Average No. of Pupils.	No. of Pupils to a Teacher.	Schools.	No. of Teachers.	Average No. of Pupils.	No. of Pupils to a Teacher.
Adams	10	523	52.3	Harvard	12	621	51.8
Agassiz	6	332	55.3	Hillside	6	356	59.3
Allston.....	11	514	46.7	Hyde.....	12	595	49.6
Andrew	14	697	49.1	Lawrence ..	18	974	54.1
Bennett.....	10	531	53.1	Lewis	13	677	52.1
Bigelow.....	15	801	53.4	Lincoln.....	16	844	52.7
Bowdoin	9	357	39.7	Lowell	13	679	52.2
Brimmer	14	662	47.3	Lyman	12	584	48.6
Bunker Hill .	11	631	57.4	Martin	12	595	49.6
Chapman ...	12	618	51.5	Mather.....	9	449	49.9
Chas. Sumner	8	396	49.5	Minot	7	297	42.4
Comins	11	618	56.2	Mt. Vernon .	5	191	38.2
Dearborn ...	19	980	51.6	Norcross ...	14	682	48.7
Dillaway	12	660	55.0	Phillips.....	14	694	49.5
Dor.-Everett.	13	653	50.2	Prescott	9	469	52.1
Dudley	14	709	50.6	Prince	9	488	54.2
Dwight	13	667	51.3	Quincy	12	548	45.7
Eliot.....	20	970	48.5	Rice	10	592	59.2
Emerson	13	639	49.1	Sherwin	11	578	52.5
Everett	14	701	50.1	Shurtleff ...	13	680	52.3
Franklin	14	643	45.9	Stoughton ..	6	329	54.8
Frothingham.	12	577	48.1	Tileston	2	76	38.0
Gaston.....	10	491	49.1	Warren	13	670	51.5
Geo. Putnam.	6	298	49.7	Wells	9	442	49.1
Gibson.....	11	427	38.8	Winthrop ..	18	947	52.6
Hancock	12	523	43.6				
Harris	6	294	49.0	Totals..	595	29,969	50.4

GRAMMAR SCHOOLS.

Graduates, June, 1887.

Schools.	Diplomas.			Schools.	Diplomas.		
	Boys.	Girls.	Total.		Boys	Girls.	Total.
Adams	15	10	25	Harvard	18	32	50
Agassiz	25	..	25	Hillside	..	26	26
Allston	20	21	41	Hyde	..	26	26
Andrew	17	23	40	Lawrence	51	..	51
Bennett	8	30	38	Lewis	47	44	91
Bigelow	50	..	50	Lincoln	42	..	42
Bowdoin	..	25	25	Lowell	30	30	60
Brimmer	33	..	33	Lyman	12	14	26
Bunker Hill	18	22	40	Martin	19	23	42
Chapman	24	23	47	Mather	18	15	33
Chas. Sumner	9	18	27	Minot	9	14	23
Comins	24	22	46	Mt. Vernon	13	9	22
Dearborn	30	24	54	Norcross	..	37	37
Dillaway	..	44	44	Phillips	38	..	38
Dor.-Everett	22	22	44	Prescott	12	20	32
Dudley	50	..	50	Prince	22	29	51
Dwight	46	..	46	Quincy	31	..	31
Eliot	33	..	33	Rice	43	..	43
Emerson	18	22	40	Sherwin	28	..	28
Everett	..	53	53	Shurtleff	..	57	57
Franklin	..	40	40	Stoughton	9	9	18
Frothingham	11	28	39	Tileston	4	1	5
Gaston	..	40	40	Warren	23	20	43
George Putnam	11	11	22	Wells	..	32	32
Gibson	19	15	34	Winthrop	..	56	56
Hancock	..	30	30				
Harris	9	14	23	Totals	961	1,031	1,992

TABLE SHOWING THE NUMBER OF YEARS THE DIPLOMA GRADUATES OF 1887 BELONGED TO A GRAMMAR SCHOOL IN THIS CITY.

Schools.	2 years or less.	3 years.	4 years.	4½ years.	5 years.	5½ years.	6 years.	6½ years.	7 years.	7½ years.	8 years.	8½ years.	9 years and over.	Not given.
Adams	1	...	1	1	....	1	6	4	6	2	3	...	...	....
Agassiz	...	...	...	...	14	1	3	...	...	1	...	...	...	6
Allston	...	...	...	...	....	....	19	1	8	2	6	...	...	5
Andrew	...	...	...	...	2	....	22	1	10	...	2	...	...	3
Bennett	...	...	...	...	....	....	11	...	19	1	6	...	1	....
Bigelow	...	...	1	...	1	....	23	...	13	6	6	...	...	....
Bowdoin	...	1	...	...	7	....	4	...	6	...	5	...	2	....
Brimmer	...	...	...	...	1	1	24	...	1	...	...	...	1	5
Bunker Hill	...	...	...	...	....	....	21	1	15	...	2	...	...	1
Chapman	1	...	...	...	2	1	...	...	9	5	13	9	6	1
Charles Sumner	...	...	...	...	6	....	18	...	2	...	...	...	...	1
Comins	...	...	...	...	13	....	27	...	6	...	...	...	...	....
Dearborn	...	...	2	...	6	....	32	...	7	...	3	...	...	4
Dillaway	...	...	...	...	8	....	17	...	7	...	4	...	1	7
Dor.-Everett	...	...	...	...	3	....	20	2	13	1	...	...	1	4
Dudley	2	4	3	...	6	....	19	...	15	...	...	1	...	....
Dwight	4	1	...	1	6	....	25	...	7	...	2	...	...	....
Eliot	...	...	...	...	1	....	22	...	5	3	...	...	...	2
Emerson	...	...	...	...	2	....	5	...	17	4	6	...	1	5
Everett	...	...	...	...	1	1	27	1	9	...	1	1	2	10
Franklin	...	...	...	...	2	1	11	...	7	4	3	1	1	10
Frothingham	...	2	4	...	....	1	17	...	7	3	2	1	1	1
Gaston	...	...	...	...	2	....	11	...	18	...	4	...	1	4
George Putnam	...	1	...	...	6	1	13	...	1	...	...	...	...	....
Gibson	3	1	1	1	1	....	21	3	2	...	1	...	...	....
Hancock	1	...	2	...	2	1	14	...	8	...	2	...	...	....

TABLE SHOWING THE NUMBER OF YEARS THE DIPLOMA GRADUATES OF 1887 BELONGED TO A GRAMMAR SCHOOL IN THIS CITY. — *Concluded.*

Schools.	2 years or less.	3 years.	4 years.	4½ years.	5 years.	5½ years.	6 years.	6½ years.	7 years.	7½ years.	8 years.	8½ years.	9 years and over.	Not given.
Harris	....	....	....	....	1	....	12	....	3	....	5	....	2	....
Harvard	....	....	....	....	2	....	34	1	12	....	1	....	....	....
Hillside	....	....	....	....	3	....	15	..	3	2	....	....	....	3
Hyde	....	....	2	....	5	....	7	1	9	1	....	....	1	....
Lawrence	1	....	....	1	5	10	20	3	10	....	1	....	....	....
Lewis	5	2	1	....	15	3	40	2	14	....	5	....	3	1
Lincoln	....	....	3	1	9	....	18	1	7	....	....	....	....	3
Lowell	....	....	....	....	5	8	29	3	7	....	....	....	....	8
Lyman	1	3	2	....	....	....	3	1	6	3	7	....	....	....
Martin	....	....	....	....	4	4	17	2	5	....	1	....	....	9
Mather	1	1	3	....	7	....	14	....	5	....	1	....	1	....
Minot	....	....	....	....	....	....	12	2	6	....	3	....	....	....
Mt. Vernon	....	....	....	....	....	....	15	....	5	....	....	....	....	2
Norcross	....	1	1	....	1	1	12	....	10	4	5	....	1	....
Phillips	....	....	1	....	3	....	23	....	9	....	1	....	1	....
Prescott	....	1	....	....	....	....	21	....	9	....	....	....	1	....
Prince	....	....	2	....	4	....	21	....	2	....	....	....	....	22
Quincy	....	....	....	....	4	....	18	....	4	2	2	1	....	....
Rice	....	....	....	....	2	1	18	....	11	2	1	....	....	8
Sherwin	....	....	....	....	11	....	10	....	5	....	2	....	....	....
Shurtleff	....	....	....	....	3	....	14	....	26	....	....	....	1	13
Stoughton	....	....	....	....	....	....	4	....	11	....	....	....	1	2
Tileston	....	....	....	....	....	....	4	....	....	....	....	....	....	1
Warren	2	1	2	....	3	1	17	3	11	....	2	....	1	....
Wells	....	....	1	1	4	3	8	3	7	1	2	....	2	....
Winthrop	....	....	1	....	6	1	15	....	11	....	11	....	....	11
Totals	22	19	33	6	189	41	854	35	426	47	121	14	33	152

PRIMARY SCHOOLS.

Semi-Annual Returns, to June 30, 1887.

Districts.	Teachers.	Average whole Number.			Average Attendance.			Average Absence.	Per cent of Attendance.	Between 5 and 8 years.	Over 8 years.	Whole No. at date.
		Boys.	Girls.	Total.	Boys.	Girls.	Total.					
Adams	10	363	111	474	317	93	410	64	86.	213	249	462
Agassiz	3	104	73	177	86	58	144	33	81.	87	102	189
Allston	8	233	242	475	203	204	407	68	86.	295	196	491
Andrew	10	275	272	547	243	231	474	73	87.	220	310	530
Bennett	7	179	162	341	163	142	305	36	89.	188	168	356
Bigelow	13	389	292	681	343	252	595	86	87.	339	339	678
Bowdoin	8	194	173	367	167	139	306	61	83.	165	222	387
Brimmer	9	236	211	447	201	176	377	70	85.	246	205	451
Bunker Hill	12	339	272	611	303	238	541	70	88.	242	352	594
Chapman	6	192	140	332	169	118	287	45	86.	192	151	343
Charles Sumner	7	178	139	317	155	117	272	45	86.	168	158	326
Comins	8	222	215	437	197	181	378	59	87.	244	196	440
Dearborn	19	557	497	1,054	474	408	882	172	84.	432	626	1,058
Dillaway	7	209	195	404	175	159	334	70	82.	185	233	418
Dor.-Everett	11	301	278	579	251	228	479	100	83.	249	331	580
Dudley	12	311	323	634	265	269	534	100	85.	277	326	603
Dwight	10	254	282	536	214	231	445	91	83.	249	288	537
Eliot	10	377	127	504	328	104	432	72	86.	276	236	512
Emerson	10	341	202	543	307	174	481	62	89.	219	330	549
Everett	10	271	265	536	238	225	463	73	87.	200	306	506
Franklin	12	315	313	628	272	254	526	102	84.	266	338	604
Frothingham	9	246	247	493	216	215	431	62	88.	216	276	492
Gaston	15	437	368	805	380	314	694	111	86.	319	420	739
George Putnam	4	100	107	207	85	90	175	32	85.	118	97	215
Gibson	6	179	161	340	142	113	255	85	75.	184	174	358
Hancock	15	462	377	839	413	331	744	95	89.	424	396	820
Harris	4	101	110	211	82	84	166	45	77.	89	99	188
Harvard	12	328	302	630	288	253	541	89	86.	302	310	612

PRIMARY SCHOOLS. — *Concluded.*

Districts.	Teachers.	Average whole Number.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Between 5 and 8 years.	Over 8 years.	Whole No at date.
		Boys.	Girls.	Total.	Boys.	Girls.	Total.					
Hillside	4	144	110	254	115	83	198	56	78.	144	118	262
Hyde	7	217	189	406	194	164	358	48	88.	182	184	366
Lawrence . . .	19	658	219	877	584	192	776	101	88.	469	426	895
Lewis	12	341	312	653	279	258	537	116	82.	285	346	631
Lincoln	6	198	104	302	170	84	254	48	81.	152	166	318
Lowell	12	333	348	681	274	284	558	123	82.	346	341	687
Lyman	11	374	163	537	334	141	475	62	88.	264	299	563
Martin	6	156	183	339	137	157	294	45	86.	172	179	351
Mather	8	192	208	400	144	160	304	96	76.	184	238	422
Minot	5	90	87	177	74	67	141	36	80.	137	66	203
Mount Vernon .	4	57	66	123	46	51	97	26	79.	71	58	129
Norcross . . .	13	219	453	672	204	408	612	60	91.	290	390	680
Phillips	6	172	145	317	152	116	268	49	84.	115	191	306
Prescott	9	258	239	497	235	211	446	51	91.	210	279	489
Prince	3	94	82	176	78	64	142	34	81.	84	100	184
Quincy	13	431	276	707	380	235	615	92	87.	331	373	704
Rice	8	226	198	424	177	151	328	96	77.	191	229	420
Sherwin	9	213	222	435	195	197	392	43	90.	221	234	455
Shurtleff	7	169	235	404	148	198	346	58	85	201	199	400
Stoughton . . .	4	82	119	201	65	92	157	44	79.	141	69	210
Tileston	2	39	39	78	34	32	66	12	85.	53	26	79
Warren	7	137	137	274	120	118	238	36	87.	180	184	364
Wells	16	412	363	775	356	303	659	116	85.	414	443	857
Winthrop . . .	6	163	165	328	147	138	285	43	87.	185	145	330
Totals . . .	464	13,068	11,118	24,186	11,319	9,305	20,624	3,562	85.3	11,626	12,717	24,343

PRIMARY SCHOOLS.

Number of Pupils in each Class, Whole Number, and Ages, June 30, 1887.

Districts.	First Class.	Second Class.	Third Class.	Whole Number.	Five years and under.	Six years.	Seven years.	Eight years.	Nine years.	Ten years.	Eleven years.	Twelve years.	Thirteen years and over.
Adams	99	196	167	462	42	84	87	116	80	24	15	11	3
Agassiz	51	51	87	189	14	29	44	53	19	21	4	4	1
Allston	128	131	232	491	54	104	137	96	56	27	11	2	4
Andrew	152	213	165	530	29	71	120	113	97	59	28	8	5
Bennett	70	127	159	356	48	63	77	78	56	23	7	3	1
Bigelow	204	218	256	678	51	116	172	156	105	44	23	7	4
Bowdoin . . .	84	145	158	387	35	70	60	84	80	42	13	1	2
Brimmer . . .	94	183	174	451	35	103	108	107	70	19	6	3	. .
Bunker Hill . .	170	238	186	594	17	98	127	140	99	81	22	7	3
Chapman . . .	98	104	141	343	48	59	85	88	42	16	3	1	1
Chas. Sumner .	85	119	122	326	37	59	72	70	59	17	7	4	1
Comins	95	144	201	440	47	93	104	89	56	30	14	6	1
Dearborn . . .	267	336	455	1,058	75	156	201	228	201	128	40	24	5
Dillaway . . .	129	114	175	418	34	69	82	101	91	35	5	1	. .
Dor.-Everett . .	158	188	234	580	33	101	115	141	112	50	22	3	3
Dudley	150	163	290	603	37	104	136	137	101	55	22	11	. .
Dwight	157	134	246	537	35	105	109	103	96	48	32	4	5
Eliot	96	198	218	512	56	113	107	109	70	41	14	1	1
Emerson . . .	126	232	191	549	28	86	105	107	117	63	23	14	6
Everett	150	200	156	506	27	65	108	120	93	54	23	12	4
Franklin	160	181	263	604	49	101	116	139	97	68	21	9	4
Frothingham .	168	155	169	492	44	85	87	99	95	57	20	3	2
Gaston	231	232	276	739	49	111	159	167	129	85	24	14	1
Geo. Putnam .	53	67	95	215	17	57	44	44	39	12	2	. .	. .
Gibson	94	118	146	358	30	62	92	79	63	19	9	3	1
Hancock . . .	143	197	480	820	75	172	177	175	120	70	28	3	. .
Harris	45	48	95	188	18	28	43	41	23	21	4	8	2
Harvard	101	200	311	612	64	113	125	129	101	56	20	4	. .
Hillside	67	89	106	262	32	55	57	40	44	26	7	1	. .

PRIMARY SCHOOLS. — *Concluded.*

Districts.	First Class.	Second Class.	Third Class.	Whole Number.	Five years and under.	Six years.	Seven years.	Eight years.	Nine years.	Ten years.	Eleven years.	Twelve years.	Thirteen years and over.
Hyde	98	96	172	366	32	72	78	83	53	26	14	7	1
Lawrence . .	313	205	377	895	64	207	198	202	133	57	21	7	6
Lewis	158	201	272	631	38	107	140	144	118	58	17	8	1
Lincoln . . .	111	121	86	318	27	54	71	80	51	19	11	5	. .
Lowell	155	232	300	687	55	129	162	160	102	46	26	4	3
Lyman	155	159	249	563	49	106	109	89	98	88	17	5	2
Martin	104	101	146	351	52	55	65	80	68	23	6	2	. .
Mather	114	123	185	422	35	74	75	102	81	31	17	4	3
Minot	35	52	116	203	39	52	46	34	21	9	1	1	. .
Mt. Vernon . .	32	27	70	129	13	28	30	28	20	8	1	1	. .
Norcross . . .	201	264	215	680	73	124	93	175	116	63	19	12	5
Phillips . . .	90	105	111	306	18	45	52	57	57	37	25	12	3
Prescott . . .	115	153	221	489	25	86	99	86	114	50	23	6	. .
Prince	59	54	71	184	15	25	44	42	40	14	2	2	. .
Quincy	199	246	259	704	54	114	153	153	129	63	21	6	1
Rice	95	154	171	420	27	63	101	99	88	29	10	3	. .
Sherwin . . .	105	142	208	455	28	71	122	108	74	33	9	8	2
Shurtleff . . .	108	107	185	400	34	79	88	87	67	26	14	4	1
Stoughton . .	55	56	99	210	34	60	47	40	18	8	2	1	. .
Tileston . . .	17	18	44	79	11	15	27	12	10	4	. .	. .	. .
Warren . . .	101	156	107	364	9	66	105	76	68	26	12	2	. .
Wells	203	257	397	857	78	139	197	190	134	93	18	6	2
Winthrop . .	65	142	123	330	61	63	61	72	39	18	3	10	3
Totals . .	6,313	7,892	10,138	24,343	2,031	4,366	5,229	5,348	4,110	2,120	758	238	93
Percentages	25.9	32.4	41.7	100	8.3	17.9	21.5	22.	16.9	8.7	3.1	1.2	.4

PRIMARY SCHOOLS.

Number of Pupils to a Teacher, June 30, 1887.

Districts.	No. of Teachers.	Av. whole No. of Pupils.	No. of Pupils to a Teacher.	Districts.	No. of Teachers.	Av. whole No. of Pupils.	No. of Pupils to a Teacher.
Adams	10	474	47.4	Harvard ...	12	630	52 5
Agassiz.....	3	177	59.0	Hillside	4	254	63.5
Allston	8	475	59.4	Hyde	7	406	58.0
Andrew.....	10	547	54.7	Lawrence ..	19	877	46.2
Bennett	7	341	48.7	Lewis.....	12	653	54.4
Bigelow	13	681	52.4	Lincoln	6	302	50.3
Bowdoin ...	8	367	45.9	Lowell.....	12	681	56.7
Brimmer ...	9	447	49.7	Lyman.....	11	537	48.8
Bunker Hill.	12	611	50.9	Martin.....	6	339	56.5
Chapman ...	6	332	55 3	Mather	8	400	50.0
Ch's Sumner	7	317	45.3	Minot.....	5	177	35.4
Comins.....	8	437	54.6	Mt. Vernon	4	123	30.7
Dearborn ..	19	1,054	55.6	Norcross...	13	672	50.9
Dillaway ...	7	404	57.7	Phillips	6	317	52.8
Dor.-Everett	11	579	52.6	Prescott ...	9	497	55.2
Dudley.....	12	634	52.8	Prince	3	176	58.7
Dwight.....	10	536	53.6	Quincy	13	707	54.4
Eliot.....	10	504	50.4	Rice	8	424	53.0
Emerson ...	10	543	54.3	Sherwin ...	9	435	48.3
Everett.....	10	536	53.6	Shurtleff...	7	404	57.7
Franklin ...	12	628	52.3	Stoughton..	4	201	50.2
Frothingham	9	493	54.8	Tileston....	2	78	39 0
Gaston	15	805	53.7	Warren	7	274	39.1
Geo. Putnam	4	207	51.7	Wells.....	16	775	48.4
Gibson	6	340	56.7	Winthrop ..	6	328	54.7
Hancock....	15	839	55.9	Totals	464	24,186	52.1
Harris	4	211	52.7				

PRIMARY SCHOOLS.

Number of Pupils promoted to Grammar Schools for the five months ending June 30, 1887.

Districts.	Boys.	Girls.	Total.	Districts.	Boys.	Girls.	Total.
Adams	12	14	26	Harvard	11	11	22
Agassiz	....	....	.....	Hillside	.....	.....	.....
Allston	....	....	.....	Hyde	22	15	37
Andrew	....	....	.....	Lawrence	102	33	135
Bennett	26	27	53	Lewis	.....	.....	.....
Bigelow	....	1	1	Lincoln	31	13	44
Bowdoin	....	....	.....	Lowell	.....	.....	.....
Brimmer	18	20	38	Lyman	26	15	41
Bunker Hill	....	....	.....	Martin	1	.....	1
Chapman	21	19	40	Mather	.....	.....	.....
Charles Sumner	....	....	.....	Minot	11	17	28
Comins	....	....	.....	Mt. Vernon	.....	....	.....
Dearborn	....	....	.....	Norcross	25	43	68
Dillaway	....	....	.....	Phillips	.....	.....	.....
Dor.-Everett	....	....	.....	Prescott	.....	.....	.....
Dudley	....	....	.....	Prince	.....	.....	.....
Dwight	....	....	.....	Quincy	19	26	45
Eliot	23	2	25	Rice	.....	.....	.....
Emerson	....	....	....	Sherwin	20	29	49
Everett	1	....	1	Shurtleff	24	28	52
Franklin	22	21	43	Stoughton	12	10	22
Frothingham	1	....	1	Tileston	.....	.....	... .
Gaston	....	....	.....	Warren	.....	... .	.....
George Putnam	....	....	.....	Wells	.....	.....	.....
Gibson	....	....	.....	Winthrop	14	17	31
Hancock	7	1	8	Totals	463	387	850
Harris	14	25	39				

DISTRIBUTION OF PUPILS IN RESPECT BOTH

	CLASSES.		Under 5 years.	5 years.	6 years.	7 years.	8 years.	9 years.
Latin Schools.	All Classes	Boys	. .	. .	. .	. .	. .	. .
		Girls	. .	. .	. .	. .	. .	. .
	Totals		. .	. .	. .	. .	. .	. .
High Schools.	Advanced Class	Boys	. .	. .	. .	. .	. .	. .
		Girls	. .	. .	. .	. .	. .	. .
	Third-year Class	Boys	. .	. .	. .	. .	. .	. .
		Girls	. .	. .	. .	. .	. .	. .
	Second-year Class	Boys	. .	. .	. .	. .	. .	. .
		Girls	. .	. .	. .	. .	. .	. .
	First-year Class	Boys	. .	. .	. .	. .	. .	. .
		Girls	. .	. .	. .	. .	. .	. .
	Totals		. .	. .	. .	. .	. .	. .
Grammar Schools.	First Class	Boys	. .	. .	. .	. .	. .	. .
		Girls	. .	. .	. .	. .	. .	. .
	Second Class	Boys	. .	. .	. .	. .	. .	. .
		Girls	. .	. .	. .	. .	. .	. .
	Third Class	Boys	. .	. .	. .	. .	1	. .
		Girls	. .	. .	. .	. .	. .	. .
	Fourth Class	Boys	. .	. .	. .	. .	. .	10
		Girls	. .	. .	. .	. .	. .	8
	Fifth Class	Boys	. .	. .	. .	. .	12	146
		Girls	. .	. .	. .	. .	2	131
	Sixth Class	Boys	. .	. .	. .	5	165	788
		Girls	. .	. .	. .	5	160	686
	Ungraded Class	Boys	. .	. .	. .	13	17	51
		Girls	. .	. .	. .	1	11	32
	Totals		. .	. .	. .	24	368	1,852
Primary Schools.	First Class	Boys	. .	. .	7	142	843	1,196
		Girls	. .	. .	2	134	728	1,070
	Second Class	Boys	. .	2	252	1,210	1,518	829
		Girls	. .	2	264	1,024	1,214	668
	Third Class	Boys	15	1,115	2,183	1,511	575	176
		Girls	10	887	1,658	1,208	470	171
	Totals		25	2,006	4,366	5,229	5,348	4,110
Grand totals			25	2,006	4,366	5,253	5,716	5,962

TO AGE AND TO CLASSES, JUNE, 1887.

10 years.	11 years.	12 years.	13 years.	14 years.	15 years.	16 years.	17 years.	18 years.	19 years and over.	Totals.
. .	2	20	55	80	105	73	46	46	24	451
. .	. .	5	18	15	23	19	20	9	11	120
. .	2	25	73	95	128	92	66	55	35	571
. .	. .	. .	. .	. .	. .	. .	. .	6	1	7
. .	. .	. .	. .	. .	. .	1	14	37	51	103
. .	. .	. .	. .	. .	3	38	74	67	18	200
. .	. .	. .	. .	. .	2	19	88	88	58	255
. .	. .	. .	. .	7	48	110	70	31	4	270
. .	. .	. .	. .	1	32	101	98	59	15	306
. .	. .	. .	6	49	128	112	39	5	. .	339
. .	. .	. .	1	29	131	165	101	25	5	457
. .	. .	. .	7	86	344	546	484	318	152	1,937
. .	. .	4	96	271	350	216	49	‡8	. .	994
. .	. .	3	48	266	349	248	124	‡15	. .	1,053
. .	10	137	360	481	325	125	33	‡4	. .	1,475
. .	8	76	278	509	363	151	41	‡5	. .	1,431
13	168	526	724	473	194	46	7	‡1	. .	2,153
8	95	387	654	566	279	69	16	‡1	. .	2,075
160	582	948	738	342	89	23	2	. .	. .	2,894
125	478	774	606	314	89	22	1	. .	. .	2,417
678	1,000	824	419	141	28	5	. .	. .	. .	3,253
578	909	738	382	125	33	10	. .	. .	. .	2,908
1,162	804	488	200	39	7	2	. .	. .	. .	3,660
986	731	375	144	36	10	1	1	. .	. .	3,135
108	130	127	93	46	9	5	. .	. .	. .	599
48	77	75	50	19	19	2	1	. .	. .	335
3,866	4,992	5,482	4,792	3,628	2,144	925	275	‡34	. .	28,382
716	288	82	†28	. .	. .	. .	. .	. .	. .	3,302
667	249	126	†35	. .	. .	. .	. .	. .	. .	3,011
333	99	37	†5	. .	. .	. .	. .	. .	. .	4,285
291	95	32	†17	. .	. .	. .	. .	. .	. .	3,607
55	5	3	†3	. .	. .	. .	. .	. .	. .	5,641
58	22	8	†5	. .	. .	. .	. .	. .	. .	4,497
2,120	758	288	†93	. .	. .	. .	. .	. .	. .	24,343
5,986	5,752	5,795	4,965	3,809	2,616	1,563	825	407	187	55,233

† Thirteen years and over. ‡ Eighteen years and over.

SCHOOL DOCUMENT NO. 15 — 1887.

SUGGESTIONS

FOR THE

GUIDANCE OF TEACHERS OF FRENCH AND GERMAN.

BOSTON:
ROCKWELL AND CHURCHILL, CITY PRINTERS,
No. 39 ARCH STREET.
1887.

In School Committee,

Boston, Sept. 27, 1887.

Referred to the Committee on High Schools with authority to have the same printed.

Attest:

PHINEAS BATES,

Secretary.

SUGGESTIONS FOR THE GUIDANCE OF TEACHERS OF FRENCH AND GERMAN IN THE BOSTON PUBLIC SCHOOLS.

The study of French and German in our High Schools ought to be given with the following results mainly in view:

1. The knowledge of the language and of the literature of the language studied. By the knowledge of the language is meant the ability to read at sight, to understand the spoken language, to speak and to write. While a direct study of the literature will be impossible, with most classes, the teacher ought to be acquainted with the masterpieces in French of the seventeenth, eighteenth, and nineteenth centuries, in German of the latter half of the eighteenth and nineteenth centuries. Many opportunities will be found to introduce this knowledge into the lessons. It is expected that the teacher will be able to speak correctly and with sufficient fluency the language which he is teaching. Oral exercises ought to form a part of the lessons, and it is by no means the least important. Whatever method may be adopted, the ear of pupils must be trained from the first lesson to catch the foreign sounds. Teachers who feel their own incompetency in this regard are earnestly requested to take the proper means for correcting accentuation and pronunciation and to confer with the Director of modern languages about their wants.

2. The improvement in the knowledge of the English language. This end can best be obtained by carefully watching the translations into English. The teachers ought to insist upon correctness and to avail themselves of every opportunity for the comparison of idioms.

3. Discipline of the mind. A direct benefit will result to most of the pupils from a rational and careful analysis, not of subtilties, but of the sentence into its fundamental elements. Many pupils cannot find subject, predicate, object, etc., in inverted sentences, and not a few in the plainest forms. Where the knowledge is deficient a comparison of foreign with English forms will often shed light. Train the pupil to observe, to notice every word; do not allow him to refer immediately to a dictionary, and do not tell him the meaning of a word he ought to know from its resemblance to the English, or which he has seen in a different form; call attention to the value of prefixes and suffixes, especially in German, and that value being once given let the pupil draw inferences. Reading at sight ought to be introduced not later than the middle of the first year and receive increased attention from that time forward.

The above considerations have led to the forming of the following programme, which must be considered as only the skeleton of the work. It is not possible to tell in advance what a given class will do, but the programme will serve to indicate approximately the quantity; the teachers' work will give the quality. The value of the study of a language does not depend on the ground covered, but on the degree of availability of the material used.

French.

First Year. — Forms of nouns, adjectives, and pronouns. Auxiliary verbs; regular verbs; general uses of the tenses of the indicative mood. (Keetel's Elementary Grammar, 28 lessons.)

Reading matter: —

1. Keetel's Reader.
2. Sauveur's Petites Causeries.
3. Peppino.

Remarks. — It is expected that pupils will be taught to understand the words of exercises when spoken, and that dictation-exercises will be resorted to. The matter drawn from the Reader or from Petites Causeries ought to be developed by questions asked in French. Peppino may be used during the latter half of the first year, especially in classes where Keetel's Reader shall be retained.

Second Year. — Review of grammatical forms. Irregular verbs. Uses of moods and tenses. Prepositions. (Keetel's Grammar complete.)

The teachers ought to supply the deficiencies of Keetel by referring to standard books. Easy translations from English into French, if possible French compositions.

Reading matter: —

1. Bôcher's Series of French Plays.
2. Madame Thérèse. Le Conscrit.
3. L'Abbé Constantin.
4. Herrig, La France Littéraire. Roemer, Vol. II.
5. Philosophe sous les Toits. Au Coin du Feu. Picciola.

Remark. — It is preferred that teachers should choose 1, 2, 3, 4. No new copies of 4 or 5 ought to be ordered. In schools where 4 and 5 exist in sufficient number they may be used for the present.

Third and Fourth Years. — General review of Grammar, Idioms, Translations into French, French compositions.

Reading: —

1. Les Nouvelles Genevoises.
2. Les Fables de La Fontaine.
3. Molière. Le Bourgeois Gentilhomme.

Then, if the pupils are able to read French prose at sight, but not before, teachers may choose from the following matter: —

Le Cid, Athalie, Les Précieuses Ridicules, Andromaque, Les Horaces, Iphigénie.

German.

First Year. — Regular declensions of nouns and adjectives, auxiliary verbs, regular verbs. (Otto's or Whitney's Grammar.)

Reading matter: —

Otto's or Whitney's Reader. (The latter contains many difficult pieces, which must not be given except to a very bright class.)

Grimm's Maerchen.

The remarks made above for the study of French (see after First Year) apply also to German.

Second Year. — Grammar reviewed and continued. Irregular forms. (Otto's or Whitney's Grammar.) Easy translation into English.

Reading matter: —

Whitney's Reader.
Der zerbrochene Krug.
Das Herz vergessen.

Third and Fourth Years. — Whitney's or Otto's Grammar. Idioms. Translations into German. German compositions.

Reading matter: —

Whitney's Reader.
Wilhelm Tell.
Maria Stuart.
Hermann und Dorothea.

When teachers have a shorter course for one or two years to arrange for senior or advanced pupils, they are expected to suit the matter to the intelligence of their classes.

It is well known that the above course is not an ideal one, but it is thought to be the best possible under the circumstances. Teachers are requested not to deviate from it without having previously conferred with the Director on the subject. It is also desired that the Director should be informed of the need of new books, so that he may prevent the purchase of books which might be replaced on the programme by better ones.

SCHOOL DOCUMENT NO. 16 — 1887.

ANNUAL REPORT

OF THE

COMMITTEE ON HORACE MANN SCHOOL FOR THE DEAF.

OCTOBER, 1887.

BOSTON:
ROCKWELL AND CHURCHILL, CITY PRINTERS,
No. 39 ARCH STREET.
1887.

In School Committee,
Boston, Oct. 25, 1887.

Accepted, and ordered to be printed.

Attest:

PHINEAS BATES,
Secretary.

REPORT.

Boston, Oct. 25, 1887.

The Committee on the Horace Mann School present their annual report.

Chapter 179 of the Acts of the Massachusetts Legislature, 1887, has been printed in the report of the Committee on Accounts, School Document No. 6, and is reprinted in the appendix to this report. It provides for the free instruction of deaf children at the expense of the Commonwealth, and therefore relieves the city from all pecuniary responsibility, while the management of the school remains with the School Committee. Under the present statute the parent or guardian is freed from the previously existing necessity of stating that he is unable to pay for his child's or ward's education.

The last school-year began September 6, 1886, with seventy-five pupils, thirty-six of whom were boys, and thirty-nine girls. Ten additional pupils were admitted during the year, and ten pupils were discharged, leaving at the close in June, 1887, seventy-five, or thirty-three boys and forty-two girls.

These children have been taught according to methods repeatedly set forth in reports upon the school. The primary classes have been much assisted the past year by printed language lessons, which private contributions enabled the principal to provide. There seems no reason why the committee should not publicly acknowledge these contributions as coming from Mrs. Francis Brooks, long a friend and benefactor of the school.

Another generous helper during the year is Professor Alexander Graham Bell. His gift, which he desired the principal to use at her discretion, was devoted partly to supplementary reading matter for the older pupils, and partly to clothing for some of the needy children.

A considerable number of subscribers have made up the sum of $364.50 for printing an illustrated primer, prepared by the principal; and the liberal friend first mentioned has signified her willingness to give whatever more may be required to pay the cost of publication.

Nor are these all the acts of beneficence for which we have to express our gratitude. The North Bennet-street Industrial School and the Tennyson-street Cooking School have continued their gracious ministrations to our pupils. The latter school has taught only girls in cooking, the former both girls and boys, in type-setting, printing, shoemaking, and carpentry. The North Bennet-street School allowed the teacher of clay modelling to instruct two classes in our own building. Both these admirable schools give much more than merely industrial training, and good as this is in itself and in its results it is not so good as the moral influence exerted by the committees and teachers in their intercourse with our children. Of this we cannot speak too highly, indeed we cannot speak highly enough; and we hope that whatever becomes of these schools, and if they are ever adopted by the city, and placed in charge of the School Committee, they will never lose the interest or the presence of those refined and true-hearted women who have made them what they are.

One of the women to whom the Horace Mann School has been greatly indebted was Miss Lucretia Crocker, who died a few weeks after the beginning of the school-year. As a member of the School Committee, and as the Supervisor immediately charged with the oversight of this school, she rendered it the same faithful and helpful service which she gave to every work intrusted to her. It will not be

thought inappropriate if we insert some verses written at the time of her death by a former pupil of the school, not only because of the tribute to her, but as an illustration of the spirit which the school endeavors to form in its members : —

"A woman who, with ready feet,
On Duty's shrine laid every power,
A worker tireless, quick to meet
With needed help the needy hour.

"Whose brain so wise, whose hand so swift,
With thought and work to guide and aid,
Drew from the heart behind, its gift
Of love, and thus were richer made.

"The precious rule, the sacred law,
That 'truest joy alone is found
In work for others' good,' we saw
In all her acts fulfilled and crowned.

"Like perfume, music, light, and air,
Which cannot be, and be withdrawn,
Her very presence seemed to bear
A benediction all its own.

"Now, while we see death's restful seal
Laid gently on the sleeping brow,
Our hearts may catch the echoing peal
Of Heaven's glad welcome — 'Enter thou!'"

We have been much interested in the success of one of our pupils transferred to a private school in order that he might pursue higher studies there. One of his teachers recently described him as very intelligent and successful, quick in following the work of his class, and keeping abreast of all, and in advance of many studying with him. This is to be counted among the useful services of the Horace Mann School, as enabling those who leave it to carry forward their education on the same level with hearing students. All that this im-

plies is not taken in without a moment's reflection on the courage, the self-respect, and other good qualities essential to it.

Another of our recent pupils has been successful in obtaining employment in a printing-office, and in satisfying his employer. We quote, as more significant than our own words would be, from a note written to the principal by the master-printer: "I think he is quite smart for a beginner, and I do not experience so much difficulty as I have with some boys who had all their faculties. I think he will make a printer, and, if he sticks to it, a good one, in a comparatively short time. . . . Of course I have to consume considerably more time in communicating with him than with another, because I cannot talk with him and work myself at the same time; but, taking things all together, I do not think I could find a much better boy to educate than he shows himself to be. Now, I do not wish to have him work for nothing, but as he is here about eight and one-half hours every day, I shall give him two dollars per week for a while, and, as he becomes more expert, increase the pay, so that he will not only be learning but earning." This, also, is a happy result for the Horace Mann School, as it shows that a congenitally deaf boy may learn a trade from an entire stranger with no more difficulty than a hearing boy would experience.

Another pupil has been recently transferred to the Clarke Institution, at Northampton, in consequence of the removal of his family from the neighborhood of Boston. His father writes as follows: "I cannot frame any sentence at all adequate to the expression of the gratitude which I shall always feel towards you and the kind teachers under your superintendence who have done so much for my boy, and it pains me to suggest a severance of such a connection. . . . He feels the severance very much, and often talks about you and the school. He wrote to Miss M. (his teacher) last week, and seems very anxious indeed for an answer, in search of which he has paid two visits to the post-office every day."

The school makes itself dear to its pupils by the personal interest taken in them by their teachers, and shown by many kindly offices out of school. No mistake about the relations between the home and the school appears to be made here. They are recognized as entering very largely into the work of the school itself, and, far from being neglected, they are constantly maintained and extended, at whatever outlay of time or of forbearance they may demand. In this respect the school sets an example which might be more generally followed.

Only one change in the staff occurred during the year, when Miss Eleanor L. F. Morison resigned, and her place was taken by Miss Florence E. Leadbetter, then a teacher in the Charles Sumner School.

We are still in the same want as last year, of a new schoolhouse. An ample appropriation has been made; but the building has been delayed, and we regret that its completion is still distant. All that has been said before concerning the want of it might be repeated here, but it is too old a story to be told again. Nothing could more forcibly illustrate the unsatisfactory methods of building Boston schoolhouses than the recent experience of this school. It is a shame to the city.

In conclusion, we ask the continued interest of the School Committee, the Commonwealth, and the community in this school. We believe it to be well conducted. Its principal and her associates have our confidence, and its children deserve our approbation. It has friends, and warm-hearted ones, but it needs more: it needs to be better known; it needs to be more generously sustained by that sympathy which has never failed, and will never fail, we believe, a Massachusetts and a Boston institution for doing good.

SAMUEL ELIOT,
J. A. McDONALD,
FRANCIS A. WALKER,
Committee.

APPENDIX.

I.

LAWS OF MASSACHUSETTS, 1887.

[Chap. 179.]

AN ACT TO PROVIDE FOR THE FREE INSTRUCTION OF DEAF-MUTES OR DEAF CHILDREN.

Be it enacted, etc., as follows: —

Section 1. With the approval of the board of education the governor may send such deaf-mutes or deaf children as he may deem fit subjects for education, for a term not exceeding ten years in the case of any pupil, to the American Asylum at Hartford, the Clarke Institution for Deaf-Mutes at Northampton, or to the Horace Mann School at Boston, or to any other school for deaf-mutes in the Commonwealth, as the parents or guardians may prefer; and with the approval of the board he may make, at the expense of the Commonwealth, such provision for the care and education of children, who are both deaf-mutes and blind, as he may deem expedient. In the exercise of the discretionary power conferred by this act no distinction shall be made on account of the wealth or poverty of the parents or guardians of such children; no such pupil shall be withdrawn from such institution or school except with the consent of the proper authorities thereof, or of the governor, and the sums necessary for the instruction and support of such pupils in such institution or school shall be paid by the Commonwealth; *provided*, *nevertheless*, that nothing herein contained shall be held to prevent the voluntary payment of the whole or any part of such sums by the parents or guardians of said pupils.

Sect. 2. Section sixteen of chapter forty-one of the Public Statutes and chapter two hundred and forty-one of the acts of the year eighteen hundred and eighty-six are hereby repealed.

SECT. 3. This act shall take effect upon its passage. [*Approved April 14, 1887.*

II.

REGULATIONS OF THE HORACE MANN SCHOOL.

(*Chapter XX. of the Regulations of the Public Schools of the City of Boston.*)

SECTION 295. This school was established by the Boston School Committee, in coöperation with the state board of education, as a day school for deaf children to whom it may be accessible.

SECT. 296. Pupils over five years of age are admitted in accordance with an act passed by the legislature in 1869. (Public Statutes, Chap. 41, Sect. 16.)[1]

"With the approval of the board of education, the governor may send such deaf-mutes or deaf children as he may deem fit subjects for education [at the expense of the Commonwealth], for a term not exceeding ten years in the case of any pupil, to the American Asylum at Hartford, [or to] the Clarke Institution for Deaf-Mutes at Northampton,[2] or to any other school for deaf-mutes in the Commonwealth, as the parents or guardians may prefer."

SECT. 297. This school is designed to give an elementary English education, but, as a preparation for this, it must first impart to pupils entering as deaf-mutes the meaning and use of ordinary language. It aims to teach all its pupils to speak and to read the speech of others from their lips. The general regulations of the public schools, Chapter XIV., so far as applicable, are to be enforced in this school.

SECT. 298. The teachers shall be a principal, a first assistant, and as many other assistants as may be necessary, provided the instructors, beside the principal, shall not exceed one for every ten pupils; and an additional teacher may be nominated whenever there is an excess of five pupils registered.

SECT. 299. The sessions of this school shall begin at 9 A.M., and close at 2 P.M., on every week-day except Saturdays, when there shall be no session.

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[1] Now, 1887, Chapter 179.

[2] Now inserted, "or to the Horace Mann School at Boston."

III.

TERMS OF ADMISSION.

Any deaf child over five years of age, not mentally nor physically disqualified, is entitled to admission. No pupil will be admitted without a certificate of vaccination, signed by a physician.

Parents or guardians desiring the admission of children as State pupils can obtain the blank form of application, and other instructions, at the school, No. 63 Warrenton street, or at the office of the Secretary of State.

Children from other States will be received, subject to the above conditions, on the payment of tuition, or upon warrants from the executives of such States.

The school year begins on the first Monday in September, and ends on the last Tuesday in June; but pupils are admitted at any time.

Communications and letters may be addressed to the Principal, Miss Sarah Fuller, No. 63 Warrenton street, Boston.

APPLICATION FOR THE INSTRUCTION OF DEAF CHILDREN.

188 .

To His Excellency the Governor: —

I, , of , in the County of , and Commonwealth of Massachusetts, respectfully represent to Your Excellency, that my[1] aged years, is DEAF, and cannot be properly instructed in the Public Schools of this Commonwealth.

I therefore respectfully request that Your Excellency will send either to the American Asylum at Hartford, the Horace Mann School at Boston, or the Clarke Institution at Northampton.

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188 .

The undersigned believe , a resident of this , to be incapable of receiving instruction in our Public Schools by reason of deafness, and therefore entitled to a place in one of the schools designated by law for deaf children.

} *Selectmen of*

or

} *Mayor of*

[1] Insert son, daughter, or ward, with name.

188 .

I hereby certify that the above-named , a deaf child, is free from all contagious diseases, and, as I believe, from all immoralities of conduct; is neither sickly, nor mentally weak, and is a fit subject for instruction at the expense of the Commonwealth.

———————————————, *M. D.*

NOTE. — The first of the above declarations must be signed by the parent or guardian of the applicant; the second by the selectmen, or a majority of them, of the town, or by the mayor of the city where the applicant resides; and the third by the family physician, or some other competent medical practitioner. In case the request for admission is granted, the parent or guardian will be forthwith notified, and a warrant will be forwarded to the principal. Pupils can be admitted to the Horace Mann School at any time between the beginning of September and the end of June.

THE PARENT OR GUARDIAN WILL ANSWER THE FOLLOWING QUESTIONS.

1. Name of parents.
2. Residence.
3. Birthplace of parents.
4. Were they deaf-mutes?
5. Have they other children deaf?
6. Name of child.
7. Birthplace of child.
8. Was the child born deaf?
9. Has the child ever spoken?
10. If it has, when was hearing lost?
11. What was the cause?
12. Has the child ever been at school?
13. How much has the child been taught?
14. Is it preferred to have the child sent to the American Asylum, Hartford, the Horace Mann School at Boston, or the Clarke Institution, Northampton?
15. Is the child mentally weak?
16. Does the child now speak, — if so, how many words?
17. REMARKS.

SCHOOL DOCUMENT NO. 17 — 1887.

ANNUAL REPORT

OF THE

BOARD OF SUPERVISORS.

1887.

BOSTON:
ROCKWELL AND CHURCHILL, CITY PRINTERS,
No. 39 ARCH STREET.
1887.

In School Committee,

Boston, Oct. 25, 1887.

Ordered, That sixteen hundred copies of the Annual Report of the Board of Supervisors for 1887 be printed.

Attest:

PHINEAS BATES,

Secretary.

Boston Public Schools,
Superintendent's Office, Mason St., Oct. 25, 1887.

To the President of the School Committee:

The Tenth Annual Report of the Board of Supervisors is herewith respectfully submitted.

EDWIN P. SEAVER,
Superintendent of Schools.

REPORT.

To the School Committee:

As required by the Rules and Regulations, the Board of Supervisors respectfully presents a report of its work, and of the work of the Supervisors for the year ending Sept. 1, 1887.

CHANGES IN THE BOARD.

The death of Miss Lucretia Crocker, Oct. 9, 1886, whose service on the Board had been continuous from its organization, was keenly felt by its remaining members, and their sense of her worth and their loss, and the loss of the schools, was expressed in a memorial appended to the report of last year. The vacancy thus occasioned continued till Feb. 23, 1887, when it was filled by the election of Mrs. Louisa P. Hopkins. To her were assigned, for the most part, the duties which had devolved upon Miss Crocker.

INSPECTION OF SCHOOLS.

The inspection of schools and matters pertaining thereto take up the larger part of the time of the Supervisors. Their

reports have been made to the several committees of the School Board, and are on file; as the last annual report dwelt particularly upon the general results of this inspection, it seems unnecessary to add anything further at this time.

EXAMINATION FOR CERTIFICATES OF QUALIFICATION.

The results of the examination for certificates of qualification, held Aug. 24, 25, and 26, 1886, were considered at meetings of the Board in September. The important facts in regard to this examination are given in the following table:

	First Grade.	Second Grade.	Third Grade.	Fourth Grade.	Special Grade.	Total.
Whole number of candidates	20	19	13	37	4	93
Number who withdrew from the examination	....	2	....	....	....	2
Number to whom certificates were granted	13	14	11	31	2	71
Number to whom certificates were not granted	7	3	2	6	2	20
Number who, having been refused certificates for which they had applied, were granted lower certificates	4	2	2	....	....	8
Whole number to whom certificates were granted	13	17	11	34	3	78
Number of these who had held certificates of a lower grade	....	1	4	....	....	5
Number to whom certificates were granted for the first time	13	16	7	34	3	73

At the request of the Committee on Sewing, the Committee on Examinations ordered an examination for certificates of qualifications for sewing-teachers. The examination was held March 16 and 17, and was chiefly conducted by Mrs. Hopkins. There were 29 candidates, of whom 19 received certificates. Other special examinations resulted in the issuing of 7 certificates of special grade. During the year 3 certificates of service were issued by order of the School Committee, and there were 5 renewals of certificates.

NORMAL-SCHOOL GRADUATES.

The number of graduates from the Normal School last June was 62, increasing the total number of graduates to 890. The number was not so large as that of the preceding year, but the class was of good quality. Most of the graduates find employment at once, as substitutes, temporary teachers, special assistants, or teachers in the evening schools, and some are fortunate enough to be early called to permanent positions. The Normal School is proving more and more its value to the city, as class after class adds experience to knowledge.

TEACHERS ON PROBATION.

An important part of the duties of the Supervisors is visiting newly appointed teachers, becoming familiar with their spirit and methods, their skill and efficiency, making such suggestions as may seem serviceable, and reporting towards the close of their first year's service in regard to their ability and success.

Two Supervisors are designated to visit thus each newly appointed teacher. The number appointed last year, and the action in regard to them, were as follows: —

Number of teachers appointed on probation from Sept. 1, 1886, to Sept. 1, 1887	95
Number of teachers whose term of probation regularly expired in that year	93
Number of the latter who were regularly recommended and confirmed	84
Number whose probation was extended and who were afterwards confirmed	8
Number whose probation was extended and who afterwards resigned	1

One whose term of probation had been extended into this year from the previous year was confirmed.

DIPLOMA EXAMINATIONS.

The examinations of the graduating classes of the Normal, Latin, High, and Grammar Schools were conducted upon the same plan as in preceding years. One change was made in relation to the Grammar Schools, the examination in English History being no longer required. Four of the subjects studied in the grammar classes, Physiology, Physics, English History, and Civil Government are not taken into account in the award of diplomas. The masters, however, report to the Board of Supervisors what has been done in these subjects during the school year.

The number of pupils examined in each class of schools, and the number to whom the Committee on Examinations awarded diplomas, are given in the following tables: —

Schools.	Number of Candidates for Diplomas.	Number granted Diplomas.	Number refused Diplomas.
Normal	62	62	. . .
Boys' Latin	41	41	. . .
Girls' Latin	13	13	. . .
English High	145	134	11
Girls' High, 4th year	97	92	5
Girls' High, 3d year	126	116	10
Charlestown High	42	42	. . .
Roxbury High	47	47	. . .
Dorchester High	32	31	1
East Boston High	29	29	. . .
West Roxbury High	16	16	. . .
Brighton High	13	12	1
Total	663	635	28

The number of candidates for Grammar-School diplomas, in June, 1887	2,025
The number to whom diplomas were granted	1,992
" " " " refused	25
The number to whom certificates of honorable mention were granted	8
The number of graduates allowed to enter the High Schools "clear"	1,717
The number of graduates allowed to enter the High School "on probation"	275

EXAMINATIONS FOR ADMISSION TO THE HIGH AND LATIN SCHOOLS.

Examinations for admission to the two Latin Schools were held in June and September, and for admission to the High Schools in September. The following table shows the number of candidates examined, and the action of the Committee on Examinations in regard to them:

	High Schools.	Boys' Latin School.	Girls' Latin School.
No. of candidates examined for admission	31	118	58
No. of candidates admitted	31	105	45
No. of candidates refused admission	...	13	13

EXAMINATION FOR PROMOTION FROM PRIMARY TO GRAMMAR SCHOOLS.

There has always been some form of examination of Primary pupils for entrance to the Grammar Schools, but only during the last few years has the examination been uniform and the results reported to the Committee on

Examinations, who have decided what pupils shall be promoted. The great advantages of this method are that the Primary-School work is kept in the direction of the "Course of Study;" that the schools make a better alignment; that their condition as a whole, and also the comparative efficiency of the various schools, is made known to the School Committee, and that the promotions into all the Grammar Schools are made upon the same principle. Even though this examination had no relation to promotions, it would still be very desirable as showing the outcome of the three years' primary work; and it may be added that the Committee on Examinations have never made promotion depend upon passing this examination in case of pupils who are beyond the Primary-School age.

Very satisfactory proof is furnished by this examination that the change in Primary methods has been fruitful of good results. The Primary Schools formerly gave no practice in written arithmetic, and no form of language work beyond reading and spelling. The training in oral and written expression at the present time, based upon observation lessons and the material furnished by the teachers and the reading books, is especially valuable. Even were it true, as it is sometimes asserted, that there is less proficiency in the arithmetical tables than in former years, this gain in the use and understanding of language is a tenfold compensation for it. It is quite likely, however, that there is really more arithmetical knowledge now, and also more skill in applying it, though there may be less glibness in reciting the "tables" than formerly.

It has been the aim of the Board of Supervisors to keep this examination within the requirements of the "Course of Study," and in the line of regular school work. Observation and the suggestions of teachers led to modifications which, being approved by the Committee on Examinations, removed difficulties. The present arrangement allows con-

siderable interval between the examinations in the different subjects, and prevents any crowding of work upon teachers and pupils.

If there is the thought in any mind that these examinations are dreaded by the children, it may at once be dismissed. The papers, as distributed, are received with eagerness, and the work is entered upon with alacrity. Nor does the exercise demand more than usual thought and care. It is the law in all of the best Primary Schools that everything shall be done in the best manner possible. It is when carelessness is the habit that the results are likely to be the most disappointing. The bright, cheery teacher inspires all the confidence needed for patient and successful work.

The Board of Supervisors arranged for the two examinations required by the Rules, — one in January, the other in June. The number of pupils presented in January for examination has been for several years much smaller than in June. Most of the masters seem to favor the plan of annual promotions, and arrange their classes accordingly; consequently, in most districts, there are no classes in January prepared for examination. The number of pupils examined, and the number promoted by the Committee on Examinations, are as follows:

	January, 1887.	June, 1887.
No. of pupils examined for promotion from Primary to Grammar Schools	814	5159
No. of pupils promoted to graded classes of Grammar Schools	780	5076
No. of pupils promoted to ungraded classes of Grammar Schools	3	44
No. not promoted	31	39

Results of the June Examination.

It may be profitable to give some of the results of the last Primary examinations, as affording evidence of the standing of the Primary Schools, and of the amount of work accomplished in them. The results have been carefully tabulated in all subjects but writing and drawing. These two were omitted to save time and labor, and because the object in view was to compare the outcome of language teaching with that of arithmetical teaching.

The masters of the districts examined in reading and oral (including sight) arithmetic. The other exercises were estimated by the Primary teachers. The papers laid before the pupils are here given:

DICTATION EXERCISE.

For Spelling and for Writing, including Punctuation and Capitals.

From 9.10 to 9.45, A.M., June 2.

DIRECTION. Read through the exercise once, and then dictate it slowly.

BOSTON, June 2, 1887.

DEAR LUCY: I must write you a letter to-day. Vacation will begin the last Wednesday of this month. That will be four weeks from yesterday. Mother says I must spend my summer somewhere in the country. My pale cheeks must get browned. When will your father's cherries be ripe? I hope the robins will leave you a whole bushel. Give my love to Uncle James and Aunt Maria.

Your loving cousin,

ROSE S. WHITE.

COMPOSITION.

From 9.10 to 10.30 A.M., June 8.

Direction to the pupils: Read this story twice, give it back to your teacher, and then write all you can remember of it.

The Widow's Gift to the King.

There was a king whose army was beaten; his money was gone, and his son taken prisoner. The king had not money enough to set his son free.

He asked his people to help him, and sent men to collect gifts. These men came to the cottage of a poor old widow.

"The son of your king," said they, "is a prisoner. Will you help to set him free?"

The widow took from her finger an old and very thin silver ring, and said, "That is all I have to give; take it, I give it to the king with all my heart."

The men laughed; for the ring was worth very little.

Some time after, the king won a great victory, and freed his son. Then he wished to show how grateful he was to those who had helped him when he was poor.

He first thought of the poor old widow, and not of the great people. He sent for her, and gave her the most beautiful presents.

She said, "O my king! I do not deserve these splendid gifts. I only gave you my old ring when your son was a prisoner."

"I do not value gifts at what they cost," said the king; "what I think of is the heart that gives them. You gave me all that you had."

ORAL AND SIGHT ARITHMETIC.

June 15 or 16.

Oral Arithmetic.

DIRECTIONS: Give out orally one, and only one, of the questions in 1, 2, 3, 4, and 5. Variations of questions are given in parentheses. Allow a reasonable time for finding answers to these. Give out *all* the questions in 6, 7, 8, 9, and 10, and require prompt answers to them. Answers to all the questions are to be written on paper.

1. Sarah had 14 cents. She spent 6 (or 7, or 8) of these. How many cents had she left?

2. William has 8 (or 7, or 6) books. Jane has 9 more than William. How many books has Jane?

3. How many cents did Abby pay for 8 (or 9, or 7) loaves of bread, at 8 cents a loaf?

4. How many ten-cent pieces in 90 (or 80 or 70) cents?

5. If 5 yards of cloth cost 35 (or 40, or 45) cents, how many cents does 1 yard cost?

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6. How many eggs in 2 dozen? in 4 dozen? in 3 dozen? in 6 dozen?

7. How many apples are 8 less 4 apples? 38 less 4? 16 less 8? 26 less 8?

8. How many trees are 30 trees and 10 trees? 30 trees and 16 trees? 40 trees and 20 trees? 40 trees and 26 trees?

9. How many gallons of oil in 8 quarts? in 20 quarts? in 40 quarts? in 36 quarts?

10. How many shells are $\frac{1}{2}$ of 10 shells? $\frac{1}{5}$ of 10 shells? $\frac{1}{4}$ of 20 shells? $\frac{1}{5}$ of 20 shells?

Sight Arithmetic.

DIRECTIONS: Write on the blackboard one question at a time, and then erase it. Require that every question in 1, 2, 3, 4, and 5 be answered promptly. Give out one, and only one, of the questions in 6, 7, 8, 9, and 10. Variations of these questions are given in parentheses. Before erasing these questions give a reasonable time for answering them.

1.	Add	\$4 \$5	\$40 \$50	\$6 \$9	\$60 \$90
2.	Subtract	\$8 \$5	\$80 \$50	\$17 \$ 8	\$170 \$ 80
3.	Multiply	\$7 6	\$8 5	\$2 6	\$20 6

4. \$7) \$42 (\$8) \$40 (6) \$12 (6) \$120 (

5. $\frac{1}{6}$ of \$42 = $\frac{1}{5}$ of \$40 = $\frac{5}{6}$ of \$42 = $\frac{4}{5}$ of \$40 =

6.	Add	Hours. 38 37	(or	Days. 39 35	or Months. 35 37)
7.	Subtract	Desks. 64 37	(or	Chairs. 65 36	or Tables. 67 39)
8.	Multiply	Apples. 14 6	(or	Pears. 13 6	or Peaches. 15 6)

9. Men. 5) 250 (Boys. or 6) 360 (Girls. or 7) 490 (

10. Find how many pupils are

6		4		5
9		9		8
4		3		6
7		8		7
8		2		4
5	or	7	or	9
3		6		3
6		8		5
7		5		6
9		9		9
—		—		—
pupils.		pupils.		pupils.

WRITTEN ARITHMETIC.

From 9.10 to 10.30 A.M., June 14.

.....PRIMARY SCHOOL.

NAME OF TEACHER, ...

YOUR OWN NAME, ...AGE, ...

1. Mary worked 30 minutes in the morning, 20 minutes at noon-time, and 15 minutes in the evening. How many minutes in all did she work?

Answer .....

2. John has 14 chickens. Dan has 5 times as many. How many chickens has Dan?

Answer .....

3. Frank measured the width of the street. He found it 66 feet wide. How many yards wide is it?

Answer .....

4. Jack paid 60 cents for his knife. Jill paid $\frac{5}{6}$ as much for hers. How many cents did she pay?

Answer .....

5. Six hundred thirty-eight pupils go to Julia's school. Three hundred forty-six of these are girls. How many are boys?

WORK.

Answer .....

6. The first year that Henry went to school he was there 218 days; the second year, 195 days; the third year, 204 days; and the fourth year, 186 days. How many days did he go to school in the four years?

WORK.

Answer .....

7. Susan's father earned 137 dollars a month. How many dollars did he earn in 7 months?

WORK.

Answer .....

8. Eight boys had each the same number of sheets of paper. They had in all 288 sheets. How many sheets had each boy?

WORK.

Answer .....

The Reading test was reading at sight new pieces, selected by the masters, a little easier than the Third-reader grade. The results are shown in the following table:

	Excellent.	Good.	Passable.	Unsatisfactory.	Bad.	Very Bad.
Reading.....	2199	1663	775	164	13	6
Dictation.....	2166	1678	823	277	80	29
Composition.....	1761	1309	1040	491	155	77
Oral Arithmetic....	3083	1124	420	126	33	16
Written Arithmetic.	2556	1274	576	268	108	42

"Composition" is too high-sounding a title for the primary work represented by it. It is taken for want of a single word to express the idea better. The language exercises of the Primary Schools consist of the statement of facts in sentence forms, simple descriptions, the reproduction of lessons and stories, making stories from pictures, and the like. This kind of work, connected as it often is with the use of the observing faculties, is very interesting and profitable to the children, especially when directed by skilful teachers.

In reference to the story given for reproduction in this examination, it may be said that it was not so happily adapted to the intelligence of the children as have been most of the stories selected in former years. Very many of the children missed the point of it. This accounts for the results falling below those of the other divisions of the language work. On a former occasion, at the suggestion of the Superintendent, a picture was placed before the children, from which they were to write a story as the composition part of the examination. The children were delighted with

the exercise, and the results were very interesting and satisfactory. It appealed to the imagination of the children, stimulated their inventive faculty, and led to the easy and natural expression of their thoughts. The Supervisors have refrained from proposing the picture-test since, on account of the additional expense attending it. Some change, however, is desirable, as the reproduction of a story leads the pupils to try so earnestly to remember the words read, that the free play of their thoughts is interfered with, and only the memory is much exercised.

DEPARTMENTAL EXAMINATIONS.

About half of the Grammar Schools were examined in one or two subjects during the year. The vacancy on the Board, which continued for some months, rendered it necessary for the remaining Supervisors to perform additional duties, and gave them less time for departmental work. These examinations, therefore, were not extensive enough to warrant the drawing of any general conclusions from them. As far as some individual schools are concerned, the results were in every way gratifying.

The Board is strongly convinced of the importance of these examinations. The purposes in view are:

1. To ascertain the manner in which "The Course of Study" is carried out.
2. To ascertain the spirit and methods of the teacher.
3. To note the mental activity of the pupils, their interest in the specified study, what they know and what they can do.
4. To trace the connection of class with class, ascertaining thereby the method of the school as a whole.

These examinations are never prepared for, and usually there appears no anxiety in regard to them. Teachers not following the "Course of Study" may feel some uneasiness,

but they are exceptions to the general rule. There is no formality, nor any depressing consideration of consequences attending the examination. The pupils can be kept wide awake, and in full possession of their faculties. The examiner adapts himself to the conditions of the class, appreciates all well-directed efforts, and brings into the service of the class whatever he has of personal power or inspiration. He is always ready to give the master and teachers the results of his examination, and to confer with them in regard to the methods and accomplishment of the school.

THE FUNCTION OF EXAMINATIONS.

Of late years the subject of examinations has been a prominent one for discussion among writers and speakers on educational topics. The thoughtful and judicious find in them, when properly conducted, a strong influence for good. Others, who aim to be no less thoughtful and judicious, can see in them no good that is not overbalanced by evil. It is natural that teachers who have become permeated with the spirit of their profession and skilled in educational processes should be restive under examinations which are no proper tests of the work that has been done; and it becomes all who are interested in the work of education to demand an improvement in the character of examinations wherever they are faulty. But their abolition is quite another thing, and, since that has its advocates, it may not be unprofitable to devote a little space to the consideration of the purpose of examinations, and their usefulness in educational systems.

1. The subject may be regarded from the teacher's standpoint. He has taught and trained his pupils in certain directions to the best of his ability. He wishes to know how well they understand what he has taught, and how well they can succeed in what he has been training them to do. How does he find out? He tries them. He finds, let it be supposed,

that they stand very well all his tests. What more natural than that he should desire to have them also tested by others? He may have overlooked some points; his way of putting things may not be the way such things will be generally put by others; his standard may be a little lower than usually prevails, or even a little higher, — who, more than he, can be interested in knowing how his work will appear to others competent to judge of its worth? If he has taught to a right purpose, he has endeavored to make his pupils independent of himself; to put them, as it were, upon their own feet, and will most certainly welcome every fair trial of their ability to stand. But it will be said that examiners are often narrow in their ideas, have hobbies, recognize nothing that is not cast in their mould, discourage the pupils, and disgust the teachers. Well, such things are possible, but at this day are hardly probable. Any real examination of a class presupposes a knowledge of the character of the class, the subjects studied, the work required, and beyond these the development aimed at. Partial examinations may be made by persons who are in practical sympathy with the students, and know the demands to be made upon them in certain directions. But persons who aim only to impress their own notions on the class, who show themselves rather than find out the students, and can believe in nothing that exists out of their line of vision, cannot, in any true sense, act as examiners; and, if any such appear, the teacher should be amused rather than troubled. But suppose such a person has the power of dismissal? That requires a great stretch of imagination. Meteors sometimes flit across the sky, but they have not yet put out any of the stars.

It certainly will be the safest, as well as the noblest, thing for the teacher to trust in the power of truth, to hew to the line, and run the risk of having his work judged by the unskilled and crotchety, rather than not have it judged at all.

Mr. Philbrick, in a report made to the School Committee

in 1857, expressed the relation of school examinations to the teachers as follows:

"Good teachers, who know what is best to be taught, and how to teach it, have a right to be examined by competent examiners, that they may have proof of the excellence of their work. Teachers of a different character, who have an imperfect knowledge as to what ought to be taught, and a limited acquaintance with the best methods of teaching, and possess little professional ambition, *need* frequent judicious examinations and inspections to instruct them in their duties, and to stimulate them to exertion."

2. The teacher is a public servant. They who employ him, to whom the people intrust the oversight of the work he is to do, are not only by statute law, but by the higher law of faithfulness to trusts, in duty bound to know how he discharges the responsibilities of his office. This they can know only through inspection and examination. And the more thoroughly they inspect and examine, the more they know the spirit and methods of the teacher, the more justly and closely they apply their tests to his work, the better it is for him and his pupils, so long as he works in the spirit of his profession and shows himself skilled in the delicate handling of youthful minds and hearts. Such a teacher is little likely to be interfered with nowadays. The community is growing away from the idea that everybody can direct the teacher. It knows incompetency, and it appreciates competency; but it leaves the wise teacher to his methods. Men of other employments are, generally, as little likely to dictate methods to the teacher as is the blacksmith to show the watchmaker how to manipulate his delicate machinery and adjust the fine parts of a watch to accurate time-measuring.

3. The examination is advantageous to the pupils. It has a bracing effect upon them; gives them confidence in them-

selves, makes them more careful to understand, arouses their ambition. Of course, a just examination is referred to. It must be admitted an examination may be discouraging in its effects. It may be a reaching for things that never have been taught, a confusing rather than a clear mode of questioning, a finding out what is not known rather than what is. Such examinations may afford the occasion for the practice of patience and the strengthening of the will under discouragements; but they are not incentives to an enthusiastic continuance in daily duties, and depress, rather than elevate, the standards of the school. But examinations of this kind have never much prevailed, and are rarer now than ever before.

4. The schools of a city are an organized system of which each school is a part. Certain schools of one grade prepare for schools of another grade, and these still for another. In all schools of a grade there is a like or corresponding classification. The second-class grammar in one school ought to match very nearly the second-class grammar in another school. The exigencies of city life cause much moving of families from one part of the city to another. If schools are rightly classified, the change of schools will not affect the standing of the transferred pupils. In all schools promotion depends mainly upon examinations. But these examinations are not uniform, nor is it essential that all should be; yet it is important that there should be some uniform examinations, in order to suggest uniform standards, and to hold like classes as closely as circumstances will allow to like work. The graduating classes of the Primary Schools are now subjected to a uniform examination, as are the graduating classes of the Grammar. For these examinations there are certainly strong reasons. Almost as good reasons could be advanced for another such examination midway the Grammar-School course. Such examinations help greatly to hold the schools together as one, to give the School Committee trustworthy

intelligence in regard to the whole system and the comparative standing of schools of the same grade.

5. Without pressing the matter very strongly, it may be stated that there is a tendency in some quarters to teach with less thoroughness and persistency subjects in which there is no examination than subjects in which an examination is to follow. There may be, then, in addition to the above reasons for examinations, another, in their effect upon the teachers themselves in holding them to systematic, precise, and clear teaching and training. By no means is this remark to be taken as general. It is believed that the teachers who are bent upon doing their best work for their pupils, examination or no examination, are in the majority.

6. It is often said that the examination too much influences the teacher in his aims and methods, hedges in his activities, and prevents him from doing the best he knows. That raises the question, Must it of necessity have that influence? It may be answered that in the public schools of this city the "Course of Study" is binding upon both teachers and examiners. In following that, there is no restriction upon the teacher's methods, no preventing the free outpouring of all that is greatest and best in him. He is to do in a large way a specified work. He is concerned for the moral and intellectual growth of his pupils, concerned for their manners as well as for their ability to answer questions. It is, therefore, for him to study his pupils, to know their moral and mental condition, to understand the action of their minds, to present his subjects in such a way that they can be grasped and the intellectual activity quickened, to bring to bear elevating motives that character may be improved, to make his pupils thoughtful, willing, and by degrees independent workers. Absorbed in this work he may well forget examinations. His motto may well be the old maxim, — *Take care of everything but the examination, and let the examination take care of itself.* There will be much more

likelihood of his pupils passing an excellent examination than if he should work with that end in view. If they fail, so much the worse for the examination.

It would be pleasant to be able to say that there is no such thing in the schools as "cramming" for examinations. It is a lessening evil, but it is still a visible one. If the influence of examinations is to lead to "cramming," it is a heavy offset to whatever good may come from them. How can a teacher who has it before him to come into honest relations with his pupils, to bring out all that is best in them, to increase their faculty and quicken their life, to give them real knowledge and a growing independent power of thought, — how can he turn from his high calling to the lower work of simply preparing his pupils to pass a specified examination?

7. The attitude of the teacher and pupils towards examinations has an important bearing upon results. The constant dread of an examination, the holding it up before the class as a terrible ordeal, the painting in vivid colors the dread consequences of a failure, and visiting with censure pupils who do not reach full success, are only so many hindrances to the success desired. Pupils are thrown into just that nervous state which weakens their confidence in themselves, deprives them, partially, of control over their faculties, leads to confusion of thought, and takes away all pleasure from exertion.

On the other hand, let the teacher look upon the examination as a matter of course, a very necessary and helpful part of the school régime, to be welcomed when the time for it has come; let his cheerful and hopeful spirit be infused into his pupils, encouraging them to undertake the test with thoughtfulness and patience, with no Damocles' sword hanging over their heads, and the results, even if not perfectly satisfactory, will be more creditable than under other circumstances, and will be the fair outcome of the ability of the class. Encouraging words, bracing up the will to undertake, are better in

every way than the constant nagging to which some pupils are subjected. But suppose there are failures. In the nature of things there must be some failures, unless the class is a remarkable one. They can easily be accounted for; some of them will be very suggestive in regard to future efforts, and all will be robbed of their discouraging features. When work is carried on in a brave, hopeful, and conscientious spirit, even failures may be made helpful; and pupils who have failed may be made only the more determined to win future success.

COURSES OF STUDY.

The Board has been called upon to consider the "Courses of Study" in only one particular, — that of arithmetic in the Grammar and Primary Schools. The Supervisors, more directly in connection with High-School instruction, have given considerable attention to the High-School course. No changes in the latter have as yet been consummated. The Board of School Committee, as recommended by the Committee on Examinations, made some important alterations in the Grammar and Primary courses in reference to arithmetic.

As far as the simplification of this study was concerned, the Board of Supervisors mainly concurred with the Committee on Examinations in the changes recommended. It did not, however, concur in the reduction of time. The difference of opinion was more decided in reference to the Primary Schools, and the lower classes of the Grammar, than to the upper Grammar classes. And this, for two reasons: one, the reduction of required topics affected mostly the upper classes; the other, that the facility acquired in the elementary processes of arithmetic by the pupils generally was not remarkable enough to suggest much need of any reduction of time. The opinion of the Supervisors, based upon their observation during visits of inspec-

tion and examination, was that there had been a decided gain in the ability of the pupils to perform these elementary processes with correctness and promptness, and they were desirous there should be a continuation of this kind of work under the same conditions, in respect to time, in the lower classes; and the reduction of the amount of required work in the upper classes did not seem to them to warrant so general a reduction of time. The hope is expressed that improved methods and simpler processes will prove that the reduction was wise. It may be added that the results of the June Primary examinations afford some grounds for such hope.

The shortcomings of the schools in reference to arithmetic were last year brought decidedly to the front. Nevertheless, after considerable investigation, and reference to the personal knowledge of individual Supervisors, there is good reason for the statement that the schools, as a whole, are pursuing arithmetic with more intelligence, habituating to a more skilful application of principles, giving the pupils more self-power than was the case in some former years. The results of tests applied to the graduates of the first class of the Grammar Schools are a matter of record, and can be appealed to. But there are no records of tests applied to the lower and middle classes of the Grammar Schools. It is well known that half of the pupils who enter the lowest class of the Grammar Schools leave the schools before reaching the second class. It can be stated very emphatically that the present course of arithmetical training in the schools permits such pupils to go out into the world with much more practical skill in arithmetical processes than was possessed formerly by pupils who took only the first part of the Grammar-School course.

As evidence that even in the days when arithmetic was studied more than now the results were not above criticism, it may not be considered amiss to give the following extract

from a report on a "Revised Course of Studies for the Grammar Schools," presented in November, 1851, and signed by Samuel W. Bates, Loring Norcross, and Hubbard Winslow: —

"The advanced pupils of our schools fail most astonishingly in rapid addition and subtraction. They have never had the mechanical practice, and are often obliged to count their fingers, in order to tell the amount of even seven and nine. Practice only can make perfect. It is a year well spent by children if in it they acquire the power of adding and subtracting the nine digits, without hesitation, in their combinations with different numbers. The only faculty of the mind required is memory, and we believe that by practice it can be obtained by the pupils of the fourth class. Its attainment should entitle the scholar to promotion to the third class." [1]

PRESSURE OF SCHOOL WORK UPON PUPILS.

There is an impression prevailing to some extent among some classes of the community that the Boston School System is a huge Juggernaut, to which are annually sacrificed many human lives. How much sympathy is often expressed for the poor children when the long vacation from school tyranny is over, and the school machinery is again set in motion to *grind*, *grind*, *grind!* And yet could these sympathizing persons be present in all the school-rooms at the beginning of the school-year they would find gathered there sixty thousand children and youths manifesting all the signs of cheerful happiness. Very few snail-like paces or glum looks would be observable. Everywhere would be happy greetings, eagerness to enter the new classes and start for-

[1] At this time the pupils of the Grammar Schools were divided into four classes, instead of six, as now.

ward on the year's advance. No indications of severe torture to come would be anywhere discoverable. Cases of apparent individual hardship will undoubtedly arise in the days to come. Discipline will not always be in the background, for some natures will need restraint and persistent direction. Yet in the main, all the year through, healthful influences will make a sweet and sunny atmosphere for the school-rooms, and, though some grinding must be done, it will be under favorable circumstances, and to good purpose. If these sympathizers with overworked and maltreated children will give some time to visiting the schools of the city they will find very much to ease their wounded hearts.

Not that everywhere, and under all circumstances, there will be found nothing in the schools to lament, no striking of wrong notes, no rasping of nerves; but that the general spirit of the schools will be invigorating, the general administration of affairs without friction, and the work required of teachers and pupils done, not merely in a perfunctory way, but heartily and happily.

It is but little understood by many people what a change has been wrought in school methods. Not but there are still lingering some specimens of the olden time, some exhibitions of the taskmaster's spirit, some enforcement by irritating penalties of rules that there would be no disposition to break but for the fuss in regard to them. Still, the majority of schools and classes are so much out of the old-time ways that they fulfil their functions without the continual presence of the "sage called discipline," making it natural and easy to conform to orderly arrangements, and school exercises a pleasure. It is, perhaps, upon this side that caution is now most needed. The way for the pupil's advancement may be rendered too easy to the feet, and the strength that comes from triumphing over obstacles not gained. The wiser teachers study the mental aptitudes and abilities of their pupils, and, while they save them from

discouragement by bringing within their reach the thing to be sought, they encourage them to put forth their own strength to the utmost, and habituate them to work for work's sake, allowing them to gain some toughness of fibre, and to know from experience that exhilaration of spirit that comes from long-sustained, yet victorious, efforts.

It may be worth one's while to look back a little into the past and see what demands the school formerly made upon the pupils, in contrast with the demands of the present day. It will be seen that the difference is not so much in favor of the good old times as is thought by many people. School boards have not entirely busied themselves in adding to the load schools have to carry. Rather, they have done very much, it will be seen, to make the burden more easy to be borne. It is true that the education furnished the ordinary boy is something more than the "three R's;" that the advocates of sending "the whole boy to school" have succeeded in getting more of him there; nevertheless his right to rest and recreation has been generously recognized. School work does not press so continuously upon him as upon the boy of a former time.

Sixty years ago, 1827, the rule of the School Committee in regard to vacations was as follows:

"The following shall be the only holydays and vacations granted alike to all the public schools: viz., every Thursday and Saturday afternoon throughout the year; days of Fast and Thanksgiving; Christmas day, and the afternoon preceding Fasts, Thanskgivings, and Christmas; the first Monday in June; the fourth of July; the general trainings; Election week; commencement week; and the remainder of the week after the visitation and exhibition of the schools in August, and after the annual thanksgivings, and the afternoon of the visitation in November."

The English High and Latin Schools had, in addition, "the week succeeding the week of commencement at Cam-

bridge;" and the Girls' High[1] had "the time between the last Thursday of November and the first Monday of December."

The hours of school sessions were as follows:

From the first Monday in April to the first Monday in October the forenoon sessions were from 8 o'clock to 12 o'clock, excepting that the Girls' High continued its sessions till 2 o'clock all the year through; the afternoon sessions were from 2 o'clock to 5 o'clock, excepting that the Latin and English High sessions were from 3 o'clock to 6 o'clock. From the first Monday in October to the first Monday in April the forenoon sessions were from 9 o'clock to 12; the forenoon sessions from 2 o'clock to 4.30.

The teachers were obliged to conform to these hours, but in the Grammar Schools, from April to October, classes in alternation and deserving pupils were dismissed one hour early in the forenoon or a half-hour early in the afternoon; in the Latin School the lowest three classes were dismissed at 11 o'clock throughout the year, "that an hour may be devoted by them to relaxation, or to some polite accomplishment, or useful study, at the pleasure of each individual."

The studies of the Grammar Schools were, in the grammar department, reading, spelling, English grammar, geography, composition, and declamation; in the writing department, writing and arithmetic. These last two subjects occupied just one-half of the school time.

The course of study of the English High School is given below, and also the present course: —

1827. Arithmetic, Geography (ancient and modern), General History, History of the United States, Reading, Grammar, Declamation, Elements of Arts and Sciences (Blair's), Book-keeping (single and double entry), Sacred Geography, Algebra, Rhetoric and Composition, Geometry,

[1] A High School for girls was opened in 1826. It continued only about two years.

Natural Philosophy, Natural Theology (Paley's), Chronology, Moral Philosophy, Forensics, Criticisms on English Authors, Practical Mathematics (including navigation, surveying, mensuration, and astronomical calculations), Evidences of Christianity (Paley's), and a course of Lectures on Natural Philosophy.

1887. English Language and Literature, Ancient History, Mediæval History, French, German or Latin, Algebra, Book-keeping, Botany, Music, Drawing, Plane Geometry, Zoölogy, Modern History, Civil Government, Solid Geometry, Physics, Chemistry.

A fourth-year course has been added, continuing some of the above studies, with the addition of plane trigonometry and surveying.

Twenty-five years after, 1852, the rule relating to vacations was as follows:

"Every Wednesday and Saturday afternoon throughout the year; Christmas-day, May-day, and Fast-day; Thanksgiving week; one day in each year for the general training, when in Boston; the fourth of July; one week commencing on the Monday preceding the last Wednesday in May; to the Latin and English High the remainder of the week after their exhibitions in July, and the six succeeding weeks; to the grammar and writing schools from the Tuesday preceding the last Wednesday in July to the first Monday in September." The Latin and English High had also the two days of public exhibition at Harvard University, and the Chairman of the Board was at liberty to give three additional days to all of the schools.

From the first Monday in April to the first Monday in October the morning sessions were from 8 to 11 in the Grammar Schools, and the afternoon sessions from 2 to 5; from the first Monday in October to the first Monday in April the morning sessions were from 9 to 12, and the afternoon sessions from 2 to 4.30. From the first Monday in

November to the first Monday in April the English High had one session a day, from 9 to 2. The rest of the year there were two daily sessions, one from 8 to 11.30 A.M.; the other from 3 P.M. to 5.30. The Latin-School hours were the same, excepting that from April to November the first session was from 8.30 o'clock to 12.30, and the second from 3 to 5 P.M.

To the Grammar list of studies had been added bookkeeping, drawing, and natural philosophy in the writing department, and a lesson each Monday morning from Hall's Manual of Morals, and music in the grammar department. There being then no Girls' High, in the Grammar Schools for girls the philosophy of natural history, practical physiology, algebra, and plane geometry were allowed.

There was not much change in the English High course. French had become a regular study of the school, and Spanish was permitted. A fourth year's course had been added, including astronomy, intellectual philosophy, logic, Spanish, geology, mechanics, engineering, and the higher mathematics, with some option.

Within the last thirty years still further changes have been made in the length of vacations and of the school sessions. There has been an addition of about four weeks to the vacation, and the general rule in regard to all schools is now five hours a day, for five days of the week. The making of Saturday a full holiday affected the High Schools more than it did the Grammar, as in the Grammar it was only the substitution of Saturday forenoon for Wednesday afternoon.

A calculation has been made of the number of hours the schools were in session during the year, at each of the periods referred to, and the results are here given:

At the first period, the school sessions held the teachers, the pupils of the High School, and of the upper two classes of the Latin School, about 1,500 hours a year; the pupils

of the Grammar Schools, who were so fortunate as to be daily dismissed in accordance with a provision of the rule, about 1,300 hours; and the lower three classes of the Latin School about 1,200 hours.

In 1852 the number of school hours for the year was about 1,300 for the High and Latin Schools, and about 1,200 for the Grammar Schools.

Under the present rule the schools are in session a little less than 1,000 hours a year.

To the Grammar-School course of study, elementary science in the lower classes, and English history in the first class, have been added. Industrial training, also, shares the time in some of the classes.

In the early rules of the School Committee no provision was made for recesses. There were recesses, and it was probably because so many pupils were deprived of them as a punishment, or to make up lessons, that a rule was finally introduced requiring a recess of from five to ten minutes for every pupil. A recess of twenty minutes is now given to pupils of the Grammar and Primary Schools in the forenoon, and one of ten minutes to Primary pupils in the afternoon.

HOME STUDY.

In the Rules and Regulations of the former periods referred to there was no reference to home study. But home study was undoubtedly required, sometimes a good deal of it, by the teachers; and when a rule was adopted in regard to it, it was for the purpose of limiting it, rather than making it obligatory. The rule as it now stands is here given:

SECT. 229. Lessons to be learned out of school shall be such as a scholar of good capacity can learn in an hour's study, at most, and shall not be required from pupils in the Primary Schools or in the Grammar Schools below the third class, and no such lessons shall be required during the month of June except from the graduating class. Lessons to

be studied in school shall not be such as to require a scholar of ordinary capacity to study out of school to learn them.

The High-School course of study limits the number of lessons that require preparation to fifteen a week, — an average of three a day. One hour of each session is to be given to study. That is presumably enough to prepare one lesson. Three hours are given to recitation. The other hour of the session is allowed for drawing, military drill, calisthenics, and other exercises that require no preparation. It is to be borne in mind, also, that the time-table of the High Schools is practically "Fifty minutes make an hour." The remaining fifty minutes of the session are given to opening exercises, going to and from recitation-rooms, and recesses. The five-hour session, therefore, is not without considerable relief to both mind and body.

The whole statement in regard to home study is, that one hour's study may be required of pupils in the upper three classes of the Grammar Schools, and the preparation of two lessons daily may be expected of pupils in the High Schools. It is probable that two hours of close study will ordinarily be ample for the main body of High-School pupils. There may be occasions when more will be required; and generally more may be required of the first-class pupils in the Latin Schools who have the examinations for entrance to college in view.

It is worth calling to the attention that the one hour a day required of certain Grammar-School pupils for home study, added to the hours of the school sessions, would aggregate a little less than the hours of the school sessions thirty or thirty-five years ago, and considerably less than the hours of sixty years ago. It is simply the old prevailing rule of six hours' schooling daily, with very generous breaks by vacations. The two hours a day required of High-School pupils, added to the hours of school sessions, would make one hundred hours

more than the hours of the school sessions twenty-five years ago, and one hundred hours less than those of sixty years ago. Much study was undoubtedly required out of school in these earlier periods, but there is no easy way of ascertaining its amount.

It will generally be conceded that the rules of the School Board, in connection with its established courses of study, do not bear hardly upon the healthy girls and boys that attend the city schools. There are those who, from lack of health, or because of some natural defect, cannot keep up with the steady march of the great army of students. Teachers and parents should be watchful of these, and let them fall back, even encourage them to fall back, as often as occasion requires. A teacher, managing with tact and kindness, can easily prevent any sense of disgrace in such pupils, because circumstances require them to halt in the march. Faithfulness to duty is always rewarded. The goal will be more surely and securely reached by slow and careful plodding than by undue straining. The aim is not simply the accomplishing of a "course of study" in a given time, with a certain number of companions, but the doing the best possible, physically, mentally, and morally, under necessary conditions.

But it will be said that this is not a full statement of the case. The administration of the school system, the classification, the examinations, the incentives, all tend to spur the children on to exertions beyond the required and reasonable. A pupil who has faithfully done all that it was possible for him to do is sometimes subjected to cutting remarks, and threatened with dire disgrace because all that was expected had not been accomplished. Undoubtedly, here and there, faults of administration appear. Teachers may sometimes labor so strenuously for immediate results as to lose sight of the capacities and needs of their pupils; may feel such a pressure from expected examinations as to be driven to get out of their pupils all the work possible, regardless of indi-

vidual weaknesses. Their first duty, then, is resolutely to throw off all such pressure, to feel perfectly free to work all the time for the good of their pupils, individually and collectively. By so doing they are sure to do the most and the best for themselves. The case has never been known of a teacher's losing rank because of a watchful and considerate care of her pupils, lightening their tasks whenever desirable, rewarding the diligent though slow, encouraging the weakly, even though the examination results were not equal to those of some other teacher who had followed a different course. It may be stated with great positiveness that there never was a time when the estimate of the worth and ability of the teachers of the public schools of this city depended so little upon the comparative results of examinations as now. The work of teachers is tested, it is true, as all good teachers desire their work tested. But the conditions under which the work is done, the peculiar difficulties to be contended with, the spirit manifested, the incentives to study and right conduct, the mental activity and behavior of the pupils, all are influential in determining the value of the teacher's services and giving the rank of excellence.

If, then, such tasks are given for home employment as demand from an average pupil more than the reasonable time suggested by the School Committee, parents will undoubtedly always find a remedy by notifying the principal of the school concerned, or the Superintendent, whose duty it is to see that the rules of the School Board are properly enforced.

INDUSTRIAL TRAINING.

The Supervisors have not been brought into direct connection with the work done under this heading, excepting in the matter of sewing. They have, however, recognized the great good that has been accomplished by the manual training schools for boys, and by the cooking schools for girls.

The time pupils have given to these schools has proved of great benefit, and there has been no loss of standing in the regular classes of the schools occasioned thereby. The experiment of industrial instruction and training has certainly been successful enough to warrant the expense needed for the extension of this kind of work in the schools. Mrs. Hopkins, the Supervisor of sewing, writes as follows in regard to this department of work:

"*Sewing.*

"I have had occasion to give considerable attention as Supervisor to the department of sewing. One of my earliest official duties was to examine a number of candidates for the certificate of sewing-teacher. I saw each candidate sew in all the common stitches, make button-holes, cut out some garment or part of a garment, and questioned her in regard to her method of teaching sewing. The results of this observation of actual work and inquiry as to how to teach the art, combined with a general estimate of the intellectual and personal fitness of the candidate for all the requirements of the position, and a consideration of the testimony which each was able to present, made up the basis of rank of the candidate and decided the question of granting a certificate. I have, since then, seen many of the sewing-teachers at work in their classes, have learned the general plan and aim of the teachers, and have witnessed the results of last year's work in several schools of the city. I am satisfied that a great amount of work of excellent quality is accomplished. The exhibitions, which attracted wide attention, were quite remarkable, as evidence of the scope and thoroughness of the instruction, the industry and progress of the classes, and the general enthusiasm of the pupils and their friends, as well as of the sewing-teachers, and even of the masters. Indeed some of the masters have initiated, superintended, and I may say inspired, the enterprise from the beginning. Mr. Swan,

of the Winthrop School, has spread the knowledge of its beneficent influences all over the country, and many cities and towns have sent their superintendents of instruction, their committees, or their teachers to him, for enlightenment as to the introduction of the department into their school courses. I think all the larger cities where it has been adopted have been instigated to its adoption by the representation of the work as carried on by the Boston schools, and have conferred personally, or by letter, with the masters of the schools on the subject of its introduction and methods of work.

"The children are shown, first, how to hold and thread the needle, how to select both thread and needle for the work in hand, how to use the thimble, and are then set to basting together a bag-apron in which to keep their work in school; they are then taught to back-stitch the basted seams, turn and hem the top of the bag of the apron, and overcast the stitched seam. Some teachers give them first a smaller spool-bag to make, and afterward a more elaborate apron, and a few teachers set them at work first on a strip of cloth with about the above order of stitches. The first method has the advantage of offering to the child's interest an article which she is to use at once; the second, of teaching the various kinds of stitch where a wrong or poor seam can be torn off and discarded, so that the tedious process of picking out is avoided, and of having on hand always a specimen of each pupil's work in various stitches, on one small piece of cloth, as a guide to the teacher in assigning work, and a ready sample of the quality of the work each has done. Some teachers have given top-sewing before overcasting; felling comes later, and gathering and button-holing last; mending, darning, and patching are taught incidentally.

"The material is almost universally furnished by the pupils, the garment generally prepared for sewing by the teacher, and constantly overlooked by her until completed. The

greatest interest has been developed in the family at home as to the progress and accomplishments of the child at school; and at exhibitions the mother, and in some cases the father and brothers, as well as other members of the home-circle, have stood proudly by the work of the daughter's hands as it lay amid the outspread garments, for the rich as well as the poor to examine with surprise and gratification. It has been often within the knowledge of the teacher that the mother takes lessons of the child at home in all that she has gained at school in this most useful art.

"The working of button-holes has been made an especial point in many schools, and has become a trade, so that in not a few instances girls of twelve or fourteen have earned considerable money out of school, and in the summer vacation have been able to support themselves by their proficiency in this respect. In some of the schools, notably in the Shurtleff, where the master, Mr. Hardon, has been very earnestly interested in this department for many years, dress-making has been lately introduced with great success, and girls have cut and fitted dresses perfectly after a short experience under the direction of the teacher. In the Winthrop School both dresses and boys' suits are made. Simple dresses are among the articles in all schools.

"In all cases the girls are enthusiastic in this department of work and study, and are able to be of essential service at home, in consequence of the valuable instruction received at school; in many well-attested cases their knowledge is applied at once to self-support on leaving the Grammar School, and supplies the graduates with a vocation.

"There is no doubt that the habits formed in connection with learning to sew have an important influence on the life and character of the girls and of their homes. It may be confidently asserted that the influence of the sewing is healthful and lasting upon the mind and character of the pupils, and on that account, no less than for its material utility, it

deserves the respect and encouragement of the community. As a department of school work it is second to none in the success which it has attained, and the interest it has enlisted in and out of the school-room.

"The teachers have displayed, to a noteworthy extent, skill, patience, fidelity, and devotion in their calling, and many of the regular teachers of the schools have voluntarily assisted at the arduous hour's work of the sewing-teacher, lightening the almost impossible task of attending faithfully to the individual work of fifty girls in sixty minutes.

"A meeting of the sewing-teachers was held in the School Committee rooms, on Saturday, Oct. 1, at the call of the Supervisor, for the purpose of mutual conference and help, and a better understanding of the best methods to be employed as demonstrated by the experience of all. A uniform system of work was formulated by the Supervisor, for all classes, so that the methods and aims in this department should be easily understood and adopted by the teachers, and presentable, on demand, to any friend or inquirer into the conditions of the instruction in sewing in Boston schools. A proposition to hold regular meetings of the sewing-teachers was acted upon, and it was decided to hold such meetings at intervals of three months, the next to occur the first Saturday after the January vacation."

UNGRADED CLASSES.

It appears, from the statistics of the schools last June, that there were ungraded classes in twenty of the Grammar Schools. In thirty-two Grammar Schools, including some of the largest schools in localities where such classes would be thought desirable, there are no ungraded classes. The main reason for this seems to be that some masters do not think such classes advantageous to their schools. They deem it better for the pupils who are not up to class grade to get

such advantages as they can from the regular instruction, and from such individual help as it may be possible to give them. In the Eliot School there are three such classes, and in the Hancock two. In the locality of these two schools there are many children of foreign birth, who must first of all be taught to speak and understand English. Nothing can be done with them in classes until something is accomplished in this direction.

The ungraded class is taking a somewhat better position than was once accorded to it, though there is still room for improvement in this respect in many of the schools. The purpose for which the ungraded class was established was purely beneficent, and there is no more disgrace attaching to membership of that class, when it has its right place in the school organization, than to membership of any other class. Pupils are sent to it as a favor, and not as a punishment. It is simply that they may receive more personal attention, be more sympathetically treated, and the sooner and better prepared for the other classes of the school. It must be said, however, that the class is not viewed in the spirit of this purpose in all schools. The teachers of graded classes are too much influenced by the old idea of it as a "Botany Bay" class, or a class for the "feeble-minded;" and sometimes sarcastically suggest to laggards and the ill-behaved that they should be sent to the ungraded class. Their tone and manner give the class a bad character in the estimation of their pupils.

This class has a rightful place in the school organization, and it should be considered as worthy of honor as any other class. Its members have simply lacked opportunities. They have become advanced in age without the corresponding mental development; they are new arrivals from foreign shores, where they have had no educational advantages, or they have been thrown back by sickness, and need much help and encouragement. Some of them, as is often the case in

other classes, may be morally as well as intellectually weak. The number of pupils in the class need not, and should not, exceed thirty-five. The teacher is thus enabled to do for them individually what cannot be done in the graded classes.

The question naturally arises, What sort of teachers should be given charge of these classes? The answer may well be, The very best that can be obtained. The idea that a teacher who has not the ability and skill to handle and teach a graded class may succeed well enough with an ungraded one should be scouted. The different conditions of the various pupils, the peculiar obstacles to be overcome in the case of each, the arousing the sluggish, winning an interest in worthy things, training to habits of sustained effort and carefulness of behavior, awaking the moral consciousness, demand the best efforts of the brightest, the most skilled and devoted teachers.

The improvement in the character of the ungraded classes, and the increase of their worth to the schools, must depend on the improvement in the spirit, the methods, and the ability of the teachers. They who are by nature adapted to these positions, who have a love for this kind of work, and can find a joy in helping their pupils onward and upward, never even dreaming that their lot is harder than that of other teachers, will occupy a high place in any just scale of values, and be worthy of the highest rewards.

EVENING SCHOOLS.

These schools, during their sessions, were frequently visited by the several Supervisors, who made themselves acquainted with their condition, methods, and accomplishment. Reports were made to the Committee on Evening Schools.

The order in these schools is now almost universally good. In one or two localities there is sometimes at the beginning

of the season outside disturbance, which has its effect upon inside conditions. This, however, is soon checked, and the schools are carried on with almost as much quietness and regularity as the day schools. It is now possible to introduce considerable classification into the elementary schools, thus utilizing to better advantage the teaching force. Still, there is a large number of young people and adults who are taking their first lessons in reading and writing, and who must be individually taught. So much help can be afforded them that they make very decided progress in a single season. More advanced pupils review their school studies, add to their knowledge, and gain in the facility of putting it to good use. The advantages offered to a large class in the community by the High and Elementary Schools, though eagerly sought by many, are not appreciated by all to whom they are offered. There is no longer any question in regard to the necessity of these schools. They have become a fixed part of the educational system. The problem now, in connection with them, is how to draw in and hold more of that class who have great need of their influence and instruction.

Respectfully submitted.

JOHN KNEELAND,
For the Board of Supervisors.

SCHOOL DOCUMENT NO. 18 — 1887.

SUPPLEMENTARY TO SCHOOL DOC. NO. 19, 1886.

LIST

OF

Candidates Eligible as Teachers

OF THE

PUBLIC SCHOOLS.

OCTOBER, 1887.

BOSTON:
ROCKWELL AND CHURCHILL, CITY PRINTERS,
No. 39 ARCH STREET.
1887.

ADDITIONAL LIST

OF

CANDIDATES ELIGIBLE AS TEACHERS

OF THE

PUBLIC SCHOOLS.

October, 1887.

SUPPLEMENTARY TO DOC. 19, 1886.

CANDIDATES CERTIFICATED, AUGUST, 1887.

FIRST GRADE.

HEAD-MASTERS, MASTERS, AND JUNIOR-MASTERS OF HIGH SCHOOLS, AND OF THE NORMAL SCHOOL, AND HEAD-MASTER OF THE EVENING HIGH SCHOOL.

George W. Anderson . . *Windham, N.H.*
[Principal Mt. Pleasant Grammar School, Nashua, N.H. 3. E. p. Sept., 1888.]

Edward H. Atherton . . *5 Hall Street, Worcester, Mass.*
[Teaching in Roxbury Latin School, Boston. 7. H. p.]

John E. Butler . . . . *A Street, Jamaica Plain.*
[2. E. s.t.p.]

Eva Channing . . . . *Forest Hills Street, Jamaica Plain.*
[1. H. s.t.p.]

Emily L. Clark . . . . *Summit Street, Roslindale.*
[2. H. s.t.p.]

Lewis W. Craig . . . . *Nantucket, Mass.*
[Principal High School. 9. H. s.t.p.]

Henry L. Everett . . . *27 Shelby Street, Worcester, Mass.*
[Teaching High School, Warren, Penn. 1. H. p.]

Jeremiah G. Foley . . . *168 West Springfield Street.*
[First Assistant in Martin School. 2. H. p. E. t.p.]

Henry E. Fraser . . . *Puritan Avenue, Dorchester.*
[Teaching in private school. 1. Temporarily withdrawn.]

William Fuller . . . . *14 Tudor Street, Lynn, Mass.*
[Teaching in High School. 9. H. p. Sept., 1888.]

William B. Harlow . . . *35 Kennedy Street, Syracuse, N. Y.*
[Teaching in High School. 7. H. p.]

Edward F. Holden . . . *20 Orchard Street, North Cambridge, Mass.*
[Assistant in Charlestown High School. 5.]

J. Norton Johnson . . . *159 York Street, New Haven, Conn.*
[2. H. t. p.]

Orson L. Manchester . . *Joliet, Illinois.*
[Principal High School. 6½. H. p.]

Emily Norcross . . . . *Wellesley Hills, Mass.*
[Assistant in Roxbury High School. 5.]

Albert S. Perkins . . . *17 Dix Street, Dorchester.*
[Assistant in Dorchester High School. 3.]

John J. Stearns . . . . *Holden Street, Brookline, Mass.*
[2½. H. G. s.t. Jan. 1, 1888.]

Samuel F. Tower . . . *Hyde Park, Mass.*
[Student in Johns Hopkins University, Baltimore, Md. 4. Temporarily withdrawn.]

SECOND GRADE.

MASTERS AND SUB-MASTERS OF THE GRAMMAR SCHOOLS, PRINCIPALS OF EVENING ELEMENTARY SCHOOLS, AND ASSISTANTS OF THE EVENING HIGH SCHOOL.

Daniel A. Clifford . . . *55 Eleanor Street, Chelsea, Mass.*
[Principal Carter Grammar School. 19. G. p.]

William A. Lenihan . . *9 Chelsea Street, East Boston.*
[1. G. E. s.t.p.]

Susan C. Lougee . . . *21 Linwood Street, Roxbury.*
[First Assistant in Dudley School. 11. H. G. p.]

Edward P. Sherburne . . *Brookline, Mass.*
[Principal Pierce School. 15. G. E. p.]

Abram T. Smith . . . *Atlantic, Mass.*
[Principal Quincy School, Quincy. 6. G. p.]

THIRD GRADE.

ASSISTANT PRINCIPALS, AND ASSISTANTS OF THE NORMAL AND HIGH SCHOOLS.

Mrs. Zéphirine N. Brown . *36 Greenwich Park.*
[Teaching in High School, Malden. 9. H. p.]

Cora E. Caldwell . . . *Clinton, Miss.*
[Teaching in Central Institute. 3. H. G. p.]

Clarabel Gilman . . . . *8 Harris Avenue, Jamaica Plain.*
[Temporary assistant in West Roxbury High School. 15. H. t.p.]

Alice S. Rollins . . . . *Rutledge Street, West Roxbury.*
[3. H. s.t.p.]

Alma F. Silsby . . . . *6 Fuller Street, Brockton, Mass.*
[Teaching in High School. 9. H. G. t.p.]

Lizzie J. Woodward . . *29 Copeland Street, Roxbury.*
[Teaching in private school. 4. Temporarily withdrawn.]

FOURTH GRADE.

ASSISTANTS OF GRAMMAR SCHOOLS, TEACHERS OF PRIMARY SCHOOLS, AND ASSISTANTS OF EVENING ELEMENTARY SCHOOLS.

*Mrs. Sarah A. Atwood . *304 Harvard Street, Cambridge, Mass.*
[15. G. t.p.]

Adelaide W. Baldwin . . *Phillipston, Mass.*
[Teaching in Wellington Grammar School, Cambridge. 2. G. s.t.p.]

Fannie O. Bartlett . . . *East Marshfield, Mass.*
[Teaching in South Primary School, Laconia, N.H. 1. G. P. s.t.p. Sept., 1888.]

Olivia G. Berry . . . . *Biddeford, Maine.*
[Teaching Primary School. 6. P. p.]

Joseph Boylston . . . . *Marshfield, Mass.*
[½. G. p.]

*Elizabeth C. Bredeen . *28 Eden Street, Charlestown.*
[10. G. P. s.t.p.]

*Clarabel E. Chapman . *20 Woodbine Street, Roxbury.*
[12. P. s.t.p.]

Helen M. Cleveland . . *Holyoke, Mass.*
[Student in University of Michigan, Ann Arbor, Mich. 10. G. p.]

Helen Doherty . . . . *2 Moreland Street, Roxbury.*
[0. E. s.t.p.]

Mary A. Donahue . . . *Medford, Mass.*
[0. G. P. s.t.p.]

Emma C. Fisher . . . *Norwood, Mass.*
[Teaching in High School, North Weymouth. 0. G. p.]

Carrie L. Fletcher . . . *124 Central Street, Worcester, Mass.*
[Teaching North Pond ungraded school. ½. G. P. t.p.]

*Mrs. Annie S. Hayward. *102 Chandler Street*, or *West Scituate, Mass.*
[12. G. P. E. s.t.p.]

Lizzie L. Howes . . . *Dennis, Mass.*
[Teaching in Huntington School, Campello. 3. G. t.p.]

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*Certificate of service renewed.

Annie L. Kendall . . . *201 Pleasant Street, Brockton, Mass.*
[Teaching in Perkins School. 11. P. t.p.]

Jacobina Koch . . . . *60 New Heath Street, Roxbury.*
[Teaching High School, Leyden Centre. 5. G. t.p. Sept., 1888.]

Fannie F. Lincoln . . . *Biddeford, Maine.*
[Teaching Primary School. 7. Withdrawn for one year.]

Emma M. McCormick . . *Box 472, Spencer, Mass.*
[Teaching Primary School. 6 months. P. t.p. Jan. 1, 1888.]

Abigail J. McCutcheon . *6 Dexter Row, Main Street, Charlestown.*
[5. G. s.t.p. Sept., 1888.]

Alexandra H. McMasters, *4 Oxford Street, Somerville, Mass.*
[0. P. E. s.t.]

Elizabeth F. Mullen . . *406 Second Street, South Boston.*
[0. G. P. E. s.t.p.]

Carrie F. Parker . . . *Box 970, Quincy, Mass.*
[Teaching in Winthrop Intermediate School, Brockton. 2. G. P. p.]

Beulah M. Peirce . . . *75 Marshall Street, Somerville, Mass.*
[0. G. P. s.t.]

Susan F. B. Perry . . . *151 Worcester Street.*
[1½. G. P. s.t.p.]

Ada F. Piper . . . . *Wolfboro Junction, N.H.*
[Teaching ungraded school, Wakefield, N.H. 0. G. P. p.]

Mary F. Power . . . . *Hayden Rowe, Mass.*
[Teaching ungraded school, Hopkinton. 2. G. p.]

Annie L. Reilly . . . . *Lexington, Mass.*
[0. G. P. E. s.t.p.]

Mary F. Riley . . . . *Winchester, Mass.*
[0. G. P. s.t.p.]

John J. Sheehan . . . *Savin Hill Avenue, Dorchester.*
[Teaching in Boylston School, Brookline. 2. G. E. p.]

Clara A. Wood . . . . *66 Charles Street, Springfield, Mass.*
[Teaching in Elm-street Grammar School. 13. G. p.]

Mrs. Sarah C. Woodward . *10 College Street, New Haven, Conn.*
[6. G. s.t.p.]

SPECIAL GRADE.

TEACHERS OF GERMAN.

Helene H. Boll . . . . *104 Dartmouth Street.*

Helen E. Stoddard . . . *31 Rutland Square.*

TEACHER OF FRENCH AND GERMAN.

Emil Sage . . . . . *6 Sharon Street.*

* ASSISTANT IN EVENING HIGH SCHOOL.

William H. Knight . . . *16 Hancock Street.*

† TEACHERS OF DRAWING.

Mrs. Anna K. Blaisdell . *10 Hillside Avenue, Malden, Mass.*
Ida Collins . . . . . *Newton Highlands, Mass.*
W. Bertha Hintz . . . *248 Newbury Street.*
William L. Judkins . . *State Normal Art School.*
Rena McLauthlin . . . *Matfield, Plymouth County, Mass.*
Ella C. Talbot . . . . *8 Oakdale Street, Jamaica Plain.*

† TEACHERS OF PHONOGRAPHY, EVENING HIGH SCHOOL.

Thornton D. Apollonio . *43 Franklin Street.*
C. Howard Montague . . *242 Washington Street.*

† TEACHER OF PENMANSHIP, EVENING HIGH SCHOOL.

Leon M. Wallace . . . *18 Post Office Square, Room 4.*

‡ TEACHERS OF SEWING.

Mrs. Theoda C. Bowker . *Natick, Mass.*
Mary A. Casey . . . . *10 Rutherford Avenue, Charlestown.*
Margaret C. Crane . . . *16 Knowlton Street, South Boston.*
Mrs. Margaret L. Harrison, *17 Ellery Street, South Boston.*
Mrs. Sarah A. Ireland . . *860 Main Street, Cambridge, Mass.*
Annie F. Marlowe . . . *239 Dorchester Street, South Boston.*
Mary E. McCarthy . . . *435 Fourth Street, South Boston.*
Mrs. Evangeline K. Mitchell, *81 Sterling Street, Roxbury.*
Ella F. Moore . . . . *37 Old Harbor Street, South Boston.*
Anna H. Pope . . . . *Dorchester Ave., opp. Dix Street, Dorchester.*
Lucy S. Robbins . . . *81 Roxbury Street, Roxbury.*
Mrs. Addie E. Sanborn . *49 Soley Street, Charlestown.*
Martha P. Simmons . . *George Street, East Somerville, Mass.*
Margaret T. Sullivan . . *37 Old Harbor Street, South Boston.*
Lizzie M. Weld . . . . *Asbury Place, Jamaica Plain.*
Ella Whiting . . . . . *19 Harvard Street, Charlestown.*

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* Certificate of service renewed.
† Certificated at special examinations.
‡ Certificated, March, 1887.

GRADUATES OF THE BOSTON NORMAL SCHOOL.

June, 1887.

ELIGIBLE FOR POSITIONS AS SUBSTITUTE, TEMPORARY, OR PERMANENT ASSISTANTS OF GRAMMAR, PRIMARY, AND EVENING ELEMENTARY SCHOOLS.

Margaret J. Adams . .	*27 Dorr Street, Roxbury.*
Agnes A. Aubin . . .	*Corner Everett and Pleasant Streets, Allston.*
Bessie L. Barnes . . .	*71 Harvard Street, Brookline, Mass.*
Alice L. Bates	*Waltham, Mass.*
Emma M. Bates . . .	*44 Saratoga Street, East Boston.*
Annette S. Blaney . . .	*Park Street, Dorchester.*
Helen M. Canning . . .	*Dedham, Mass.*
Margaret E. Carey . . .	*Auburndale, Mass.*
Louise L. Carr	*Everett Street, Dorchester.*
*Mrs. Mary B. Chaloner .	*6 Lincoln Street, Charlestown.*
[Has taught 3 years.]	
Mary M. Clapp	*18 Atlantic Street, South Boston.*
Fanny E. Coe	*Amory Street, Jamaica Plain.*
Ida M. Condon	*128 F Street, South Boston.*
Eva M. Cotton	*Warren Street, Brighton.*
Elizabeth G. Desmond .	*11 School Street, Charlestown.*
Laura Emmel	*128 Otis Street, East Cambridge, Mass.*
Mabel A. English . . .	*Cambridge Street, Allston.*
Agnes G. Flanagan . .	*11 Malden Street, Charlestown.*
Agnes A. Herlihy . . .	*32 Winthrop Street, Charlestown.*
Mary A. Higgins . . .	*117 Cabot Street, Roxbury.*
Lillian S. Hilton . . .	*3 Dimock Street, Roxbury.*
Helen E. Hobbs . . .	*613 East Ninth Street, South Boston.*
Grace E. Holbrook . . .	*581 East Ninth Street, South Boston.*
Edith J. Holden	*Reading, Mass.*
Agnes B. Hudson . . .	*291 Dudley Street, Roxbury.*
Anastasia G. Hyde . . .	*534 Sixth Street, South Boston.*

* Graduated in 1879. Certificate renewed.

Bessie C. Jones . . . . *Corner High and Highland Streets, Meeting-house Hill, Dorchester.*
Katharine J. Keefe . . . *26 Cunard Street, Roxbury.*
Hattie C. Leatherbee . . *Allston.*
Jane C. Levi . . . . *149 Charles Street.*
Minnie B. Lincoln . . . *690 Shawmut Avenue, Suites.*
Florence K. Manson . . *78 H Street, South Boston.*
Henrietta S. Manson . . *47 Saratoga Street, East Boston.*
Margaret F. Marden . . *36 Gray Street.*
Nellie G. McElwain . . *102 Chandler Street.*
Esther E. McGrath . . *16 Langdon Street, Roxbury.*
Margaret A. McGuire . *78 Hampshire Street, Roxbury.*
Emma L. Mitchell . . . *10 Mill Street, Charlestown.*
Margaret D. Mitchell . . *86 Tremont Street, Charlestown.*
J. Gertrude Mulloney . *12 Brookline Street, Cambridge, Mass.*
Kate L. Niland . . . . *370 Bremen Street, East Boston.*
Margaret A. M. O'Dowd . *4 Baldwin Place.*
[Temporary teacher in Hancock School.]
Martha T. O'Hea . . . *423 Main Street, Charlestown.*
Emily H. Osborne . . . *10 Melrose Street.*
Bertha Peirce . . . . *929 East Fourth Street, South Boston.*
Lura M. Power . . . . *583 Broadway, South Boston.*
Minnie V. Reid . . . *Park Street, Cambridgeport, Mass.*
Helen E. Risteen . . . *Clarendon Hotel, 523 Tremont Street.*
Lillian E. Rogers . . . *Newtonville, Mass.*
Mary F. Roome . . . *Clarendon Hills, Hyde Park, Mass.*
Alice H. Shaw . . . . *20 Pacific Street, Rockland, Mass.*
Alice M. Smith . . . . *17 Spring Garden Street, Dorchester.*
Ada A. Spence . . . . *321 Columbus Avenue.*
Sarah E. Stuntz . . . *Newton Upper Falls, Mass.*
Katharine C. Sullivan . *18 Hudson Street.*
Myrtie B. Symonds . . *9 St. James Street, Roxbury.*
[Has taught 1½ years.]
Elizabeth S. Tash . . . *31 Gray Street.*
Kate V. Tiernay . . . *110 Tyler Street.*
Agnes A. Watson . . . *7 Auburn Street, Roxbury.*
Ida T. Weeks . . . . *161 Roxbury Street, Roxbury.*
Augusta G. Williams . . *28 Highland Park Avenue, Roxbury.*
Helen A. Woods . . . *14 Oscar Street, Roxbury.*

CANDIDATES NOT NOW ELIGIBLE.

Appointed since the Printing of the List in Doc. 19, 1886:

First Grade.

Nathaniel S. French.
James E. Hayes (Sub-master in Frothingham School).

Second Grade.

Henry B. Hall. Edwin F. Kimball.

Third Grade.

Edith A. Parkhurst.

Fourth Grade.

Caroline M. Bayley. Alice P. Lord. Elizabeth L. Stodder.

Special Grade.

Teacher of French, Charles P. Lebon (Junior-master in English High School).

Normal Graduates.

Mary E. Abercrombie,
Elizabeth M. Blackburn,
Nellie F. Brazer,
Elinor F. Decatur,
Lizzie C. Estey,
Marguerite J. Flynn,
Grace J. Freeman,
Ellen F. A. Hagerty,
Gertrude Halladay,
Nellie F. Holt,
Mary E. Kelly,
Catherine E. McDonald,
Annie F. McMahon,
Mary A. Merritt,
Ruth C. Mills,
Ruphine A. Morris,
Mary E. O'Leary,
Alice M. Raymond,
Mary H. Reid,
Mary A. Riordan,
Genevieve C. Roach,
Alice M. Robinson,
Emily H. Sanderson,
Lizzie Simpson,
Elizabeth L. B. Stearns,
Katharine A. Sweeney,
Lena E. Synette,
Sarah M. Taylor,
M. Ella Tuttle,
Caroline M. Walsh,
Mabel L. Warner,
Etta Yerdon.

Deceased.

Normal graduate, Rosa E. Jones.

Certificated at the August Examination, and appointed since:

First Grade.

Jeremiah G. Foley (first assistant in Martin School).
Edward F. Holden (assistant in Charlestown High School).
George E. Howes.
Emily Norcross (assistant in Roxbury High School).
Albert S. Perkins (assistant in Dorchester High School).
Albert P. Walker.

Third Grade.

M. Medora Adams.

Special Grade.

Sewing. Certificated March, 1887:

Sarah H. Norman, Mrs. Elizabeth A. Power,
Ellen M. Wills.

Graduated from Normal School, June, 1887, and appointed since:

Miriam W. Dike.

SCHOOL DOCUMENT NO. 19 — 1887.

REPORT

OF THE

COMMITTEE ON HYGIENE

ON THE

SUBJECT OF ONE DAILY SESSION OF THE PUBLIC SCHOOLS DURING THE MONTHS OF DECEMBER, JANUARY, AND FEBRUARY.

NOVEMBER, 1887.

BOSTON:
ROCKWELL AND CHURCHILL, CITY PRINTERS,
No. 39 ARCH STREET.
1887.

In School Committee, Boston, Nov. 22, 1887.
Accepted, and ordered to be printed.
Attest:

PHINEAS BATES,
Secretary.

REPORT.

In School Committee, Boston, Nov. 22, 1887.

The Committee on Hygiene, to whom was referred, Oct. 25, an order concerning the hours of the morning session of the Gibson School, respectfully present the following report: —

The committee recognize the reasons which would seem to justify the adoption of the proposed change, but, as this seems an appropriate time, they desire to bring before the Board a measure which will secure not only the accommodations and advantages involved in the passage of the above order, but other benefits of a more important character. The committee propose for the favorable action of the Board the adoption of a single daily session in the schools during the winter months. The idea is by no means new, and has been successfully tested in one of our schools. If it be said that the circumstances recommending one session in that instance were local and peculiar, the committee would add that the general adoption of one session during the winter season appeals to reasons stronger and of a higher order. The months of December, January, and February constitute the wet and stormy season, when the ground is likely to be covered with snow and ice, or to be moist and muddy from rain or thaw. As a rule, the footing is hard or dry in the morning hours, and the children reach school without getting wet. At midday, however, except in quite cold weather, the walking is apt to be wet and slushy, and pupils often reach home at that hour with wet garments and soaking shoes, and reappear at school in the afternoon and sit through the

session in that condition. It is needless to refer to the discomfort and injury to health, which are the inevitable consequences of such exposure. These dangers would, in a great measure, be avoided if there were but one daily session, as the children would almost invariably arrive at school and remain during the session with their shoes and clothing dry.

Another reason, and one of the strongest which can be adduced for the proposed change, applies to the subject of vision. It has been settled beyond question that school life has a damaging effect on the eyesight of children. The specific causes by which the injury is produced are various; but only one, and that the principal one, need be mentioned in this connection, namely, the dimness of light at the closing hours of the day. If each school-house were in a free, open space, and provided with large windows and plenty of them, this objection would not be so prominent; but, unfortunately, it is the exception, not the rule, to find a school-building in the city so happily favored. In the city proper, and in many places outside of it, the school-rooms are dingy after the middle of the afternoon during the season in question. In some schools artificial light is used after, say three o'clock, and there are others, not provided with it, where it is also needed. The one session would obviate this difficulty, and would assuredly be a great gain in the matter of preserving perfect eyesight in the children.

The intermission of two hours after noontime, according to the present method, and justly valued as an interruption and rest from study, can be compensated for, to a great degree, by a long recess at twelve o'clock, for luncheon and recreation. The remaining time in school would be comparatively short, and the less arduous studies could be assigned to that time.

There are many factors which enter into the consideration of this subject; but the committee do not consider it

necessary to make a more lengthy report, and feel assured they have given sufficient reasons for adopting the single session during the winter months. At least, they feel that the Board would be warranted in trying the method for the coming season, and the experience derived from the trial would enable the Board to decide as to the practicability and wisdom of continuing it.

In relation to the number of hours of the session, the committee believe that the Primary-school children should not be required to study as many hours as the Grammar-school pupils, and recommend that the former be dismissed one hour earlier. It is also suggested that the Board of Supervisors arrange the necessary changes, if any, in relation to the studies.

In accordance with the views expressed above, the committee recommend the passage of the following order, under a suspension of the rules.

For the Committee,

RUSSELL D. ELLIOTT,

Chairman.

Ordered, That from and including the first Monday in December, to and including the last Friday in February, there be held on all school days but one session in the public schools; said session to continue from nine to two o'clock in the Grammar schools, and from nine to one o'clock in the Primary schools.

SCHOOL DOCUMENT NO. 20 — 1887.

BOSTON PUBLIC SCHOOLS.

LIST OF AUTHORIZED

TEXT AND REFERENCE BOOKS,

AND

SUPPLEMENTARY READING-BOOKS,

FOR

SCHOOL YEAR 1887-88.

BOSTON:
ROCKWELL AND CHURCHILL, CITY PRINTERS,
No. 39 ARCH STREET.
1887.

In School Committee, Nov. 22, 1887.

Ordered, That the list of authorized text and reference books and supplementary reading-books be printed.

Attest:

PHINEAS BATES,
Secretary.

TEXT-BOOKS.

PRIMARY SCHOOLS.

Third Class. — Franklin Primer and Advanced First Reader. Munroe's Primary Reading Charts.

Second Class. — Franklin Second Reader. Franklin Advanced Second Reader. First Music Reader.

First Class. — Franklin Third Reader. First Music Reader.

Upper Classes. — [1] Franklin Primary Arithmetic. First Lessons in Natural History and Language, Parts I. and II. Child's Book of Language, Nos. 1, 2, 3. [By J. H. Stickney.]

All the Classes. — American Text-books of Art Education. First Primary Music Chart. Prang's Natural History Series, one set for each building.

Magnus & Jeffries's Color Chart; "Color Blindness," by Dr. B. Joy Jeffries. — One copy of the chart and one copy of the book for use in each Primary-School building.

GRAMMAR SCHOOLS.

Sixth Class. — Franklin Advanced Third Reader. [3] Warren's Primary Geography. Intermediate Music Reader. Franklin Elementary Arithmetic. [2] Greenleaf's Manual of Mental Arithmetic. Worcester's Spelling-Book.

Fifth Class. — Franklin Intermediate Reader. [4] New Franklin Fourth Reader. Franklin Elementary Arithmetic. [2] Greenleaf's Manual of Mental Arithmetic. [3] Warren's Pri-

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[1] Each Primary-School building occupied by a first or second class to be supplied with one set of the Franklin Primary Arithmetic; the number in a set to be sixty, or, if less be needed, less than sixty; the Committee on Supplies are authorized to supply additional copies of the book at their discretion, if needed.

[2] To be used in the manner recommended by the Board of Supervisors in School Document No. 14, 1883; one set of sixty copies to be supplied for the classes on each floor of a Grammar-School building occupied by pupils in either of the four lower classes, and for each colony of a Grammar School.

[3] Guyot's Elementary Geography allowed in Charlestown schools.

[4] To be furnished at the discretion of the Committee on Supplies.

mary Geography. Intermediate Music Reader. Worcester's Spelling-Book.

Fourth Class. — Franklin Fourth Reader. [5] New Franklin Fourth Reader. Franklin Written Arithmetic. [1] Greenleaf's Manual of Mental Arithmetic. [2] Warren's Common-School Geography. Intermediate Music Reader. Worcester's Spelling-Book. [4] Blaisdell's How to Keep Well.

Third Class. — Franklin Fifth Reader. [5] New Franklin Fifth Reader. Franklin Written Arithmetic. [1] Greenleaf's Manual of Mental Arithmetic. [2] Warren's Common-School Geography. Swinton's New Language Lessons. Worcester's Comprehensive Dictionary. Higginson's History of the United States. [3] Fourth Music Reader. [Revised edition.] [4] Blaisdell's How to Keep Well.

Second Class. — Franklin Fifth Reader. Franklin Written Arithmetic. [2] Warren's Common-School Geography. Swinton's New Language Lessons. Worcester's Comprehensive Dictionary. Higginson's History of the United States. [3] Fourth Music Reader. [Revised edition.] Smith's Elementary Physiology and Hygiene.

First Class. — Franklin Sixth Reader. Franklin Written Arithmetic. Meservey's Book-keeping, Single Entry. [2] Warren's Common-School Geography. Swinton's New Language Lessons. Worcester's Comprehensive Dictionary. Stone's History of England. Cooley's Elements of Philosophy. [3] Fourth Music Reader. [Revised edition]

Fifth and Sixth Classes. — First Lessons in Natural History and Language. Parts III. and IV.

All Classes. — American Text-books of Art Education. Writing-books: Duntonian Series; or, Payson, Dunton, and Scribner's. Child's Book of Language; and Letters and Lessons in Language. Nos. 1, 2, 3, 4. [By J. H. Stickney.] Prang's Aids for Object Teaching, "Trades," one set for each building.

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[1] To be used in the manner recommended by the Board of Supervisors in School Document No. 14, 1883; one set of sixty copies to be supplied for the classes on each floor of a Grammar-School building occupied by pupils in either of the four lower classes, and for each colony of a Grammar School.

[2] The revised edition to be furnished at the discretion of the Committee on Supplies to schools where this book is used. Guyot's Intermediate Geography allowed in Charlestown schools.

[3] The revised edition to be supplied as new books are needed.

[4] One set of not more than sixty copies, or, if determined by the Committee on Supplies to be necessary, more than one set, be placed in each Grammar School, for use as collateral reading in the third and fourth classes.

[5] To be furnished at the discretion of the Committee on Supplies.

HIGH SCHOOLS.

English. — Abbott's How to Write Clearly. Hill's *or* Kellogg's Rhetoric. Scott's Lady of the Lake. Selections from Addison's Papers in the Spectator, with Macaulay's Essay on Addison. Irving's Sketch-Book. Trevelyan's Selections from Macaulay. Hales's Longer English Poems. Shakespeare, — Rolfe's *or* Hudson's Selections. Selection from Chaucer. Selections from Milton. [Clarendon Press Edition. Vol. I.] Worcester's Comprehensive Dictionary.

Latin. — Allen & Greenough's Latin Grammar. [Roxbury, W. Roxbury, and Brighton High Schools.] Harkness's Latin Grammar. [English, Girls', Dorchester, Charlestown, and East Boston High Schools.] Harkness's Complete Course in Latin for the first year. Gildersleeve's Latin Primer. Harkness's Cæsar. Lindsey's Cornelius Nepos. Chase's, Frieze's, *or* Greenough's Virgil, or any edition approved by the Committee on Text-books. Greenough's *or* Harkness's Cicero. Chase's *or* Lincoln's Horace, or any edition approved by the Committee on Text-books.

History. — Swinton's Outlines of the World's History. Martin's Civil Government.

Mythology. — Berens's Hand-book of Mythology.

Mathematics. — Meservey's Book-keeping. Bradbury's Eaton's Algebra. [1] Wentworth and Hill's Exercises in Algebra. Bradbury's Elementary Geometry *or* Chauvenet's Geometry. Greenleaf's Trigonometry. [2] Metric Apparatus.

Physics. — Cooley's New Text-book of Physics. Avery's Physics, *or* Gage's Physics.

Astronomy. — Kiddle's Astronomy.

Chemistry. — Eliot & Storer's Elementary Manual of Chemistry, edited by Nichols. Eliot & Storer's Qualitative Analysis. Hill's Lecture Notes on Qualitative Analysis. Tables for the Determination of Common Minerals. [Girls' High School.]

Botany. — Gray's School and Field Book of Botany.

Zoölogy. — Morse's Zoölogy and Packard's Zoölogy.

Physiology. — Hutchinson's Physiology. Blaisdell's Our Bodies and How we Live.

Drawing. — American Text-books of Art Education.

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[1] This book is not intended and does not in fact displace any text-book now in use, but is intended merely to furnish additional problems in algebra.

[2] Not exceeding $15 for each school.

Music.—Eichberg's High-School Music Reader. Eichberg's Girls' High-School Music Reader. [Girls' High School.]

LATIN SCHOOLS.

Latin. — White's Abridged Lexicon. Harkness's Grammar. Harkness's Reader. Harkness's Complete Course in Latin for the first year. Harkness's Prose Composition, *or* Allen's Latin Composition. Harkness's Cæsar. Lindsey's Cornelius Nepos. Greenough's Catiline of Sallust. Lincoln's Ovid. Greenough's Ovid. Greenough's Virgil. Greenough's *or* Harkness's Orations of Cicero. Smith's Principia Latina, Part II.

Greek. — Liddell & Scott's Abridged Lexicon. Goodwin's Grammar. White's Lessons. Jones's Prose Composition. Goodwin's Reader. The Anabasis of Xenophon. Boise's Homer's Iliad.

English. — Soule's Hand-book of Pronunciation. Hill's General Rules for Punctuation. Hawthorne's Wonder Book. Hawthorne's Tanglewood Tales. Plutarch's Lives of Famous Greeks and Romans. Macaulay's Lays of Ancient Rome. Higginson's History of the United States. Hughes's Tom Brown's School-Days at Rugby. Dana's Two Years Before the Mast. Charles and Mary Lamb's Tales from Shakespeare. [Revised Edition, Houghton, Mifflin, & Co.] Scott's Ivanhoe. Hawthorne's True Stories. Greene's Readings from English History. [1] Church's Stories from Homer. [1] Church's Stories of the Old World. Selections from American Authors, — Franklin, Adams, Cooper, and Longfellow. American Poems, with Biographical Sketches and Notes. Irving's Sketch-Book. Selections from Addison's Papers in the Spectator. Ballads and Lyrics. Hales's Longer English Poems. Three plays of Shakespeare, — Rolfe's *or* Hudson's Selections.

History. — Leighton's History of Rome. Smith's Smaller History of Greece. Long's *or* Ginn & Heath's Classical Atlas. Smith's Smaller Classical Dictionary, — Student's Series.

Mythology. — Berens's Hand-book of Mythology.

Geography. — Geikie's Primer of Physical Geography. Warren's Common-School Geography.

Physiology. — Macé's History of a Mouthful of Bread. Foster's Physiology (Science Primer). Blaisdell's Our Bodies and How we Live.

[1] No more copies of Church's Stories from Homer to be purchased, but as books are worn out their place to be supplied with Church's Stories of the Old World.

Botany. — Gray's School and Field Book of Botany.

Zoölogy. — Morse's Zoölogy and Packard's Zoölogy.

Mineralogy. — Tables for the Determination of Common Minerals. [Girls' Latin School.]

Mathematics. — The Franklin Written Arithmetic. Bradbury's Eaton's Algebra. [1] Wentworth and Hill's Exercises in Algebra. Chauvenet's Geometry.

Physics. — Arnott's *or* Avery's Physics, *or* Gage's Physics.

Drawing. — American Text-books of Art Education.

Music. — Eichberg's High-School Music Reader. Eichberg's Girls' High-School Music Reader. [Girls' Latin School.]

LATIN AND HIGH SCHOOLS.

French. — Keetel's Elementary Grammar. Keetel's Analytical French Reader. [2] Sauveur's Petites Causeries. Hennequin's Lessons in Idiomatic French. Gasc's French Dictionary. Erckmann-Chatrian's Le Conscrit de 1813. Erckmann-Chatrian's Madame Thérèse. Bôcher's College Series of French Plays. Nouvelles Genevoises. Souvestre's Au Coin du Feu. Racine's Andromaque. Racine's Iphigénie. Racine's Athalie. Molière's Bourgeois Gentilhomme. Molière's Precieuses Ridicules. Corneille's Les Horaces. Corneille's Cid. Herrig's La France Littéraire. Roemer's French Course. Vol. II. Ventura's Peppino. Halévy's L'Abbé Constantin. La Fontaine's Fables.

German. — Whitney's German Dictionary. Otto's *or* Whitney's Grammar. Otto's *or* Whitney's Reader. Der Zerbrochene Krug. Schiller's Wilhelm Tell. Schiller's Maria Stuart. Goethe's Hermann und Dorothea. Putlitz's Das Herz Vergessen. Grimm's Märchen.

NORMAL SCHOOL TEXT-BOOKS.

The text-books used in this school shall be such of the text-books used in the other public schools of the city as are needed for the course of study, and such others as shall be authorized by the Board.

HORACE MANN SCHOOL TEXT-BOOKS.

Such text-books shall be supplied to the Horace Mann School as the committee on that school shall approve.

[1] This book is not intended to and does not, in fact, displace any text-book now in use, but is intended merely to furnish additional problems in algebra.

[2] To be furnished as new French Readers are needed. The use of the book confined for this year to the Charlestown, Roxbury, and West Roxbury High Schools.

EVENING HIGH SCHOOL TEXT-BOOKS.

Benn Pitman's Manual of Phonography. Reporter's Companion. The Phonographic Reader. The Reporter's First Reader.

The text-books used in this school shall be such of the text-books authorized in the other public schools as are approved by the Committee on Evening Schools and the Committee on Supplies.

EVENING ELEMENTARY SCHOOL TEXT-BOOKS.

Munroe's Charts. Franklin Primer. Franklin Reader. Stories of American History. Harper's Introductory Geography. The Franklin Elementary Arithmetic. The Franklin Written Arithmetic. Writing-books, Plain Copy-books; and such of the text-books authorized in the other public schools as are approved by the Committee on Evening Schools and the Committee on Supplies.

SCHOOLS OF COOKERY.

Boston School Kitchen Text-Book, by Mrs. D. A. Lincoln.

REFERENCE BOOKS.

PRIMARY SCHOOLS.

Worcester's Comprehensive Dictionary. National Music Teacher. Munroe's Vocal Gymnastics. Lessons in Color (one copy for each Primary-School teacher's desk). White's Oral Lessons in Number (one copy for each Primary-School teacher's desk). Smith's Primer of Physiology and Hygiene (one copy for each Primary-School teacher's desk).

GRAMMAR SCHOOLS.

Appleton's American Encyclopædia *or* Johnson's Encyclopædia. Chambers's Encyclopædia. Anthon's Classical Dictionary. Thomas's Dictionary of Biography and Mythology. Worcester's Quarto Unabridged Dictionary. Webster's

Quarto Unabridged Dictionary. Webster's National Pictorial Dictionary.

Lippincott's Gazetteer. Johnson's Atlas. Reclus's Earth. Reclus's Ocean. Flammarion's Atmosphere. Weber's Universal History. Bancroft's History of the United States. Battle Maps of the Revolution. Palfrey's History of New England. Martin's Civil Government. Frothingham's Rise of the Republic. Lossing's Field-book of the Revolution. Shurtleff's Topographical History of Boston. Frothingham's Siege of Boston. Lingard's History of England. Smith's Primer of Physiology and Hygiene (one copy for the desk of each teacher of the fifth and sixth classes).

Goold-Brown's Grammar of English Grammars. Wilson's Punctuation. Philbrick's Union Speaker. Methods of Teaching Geography (one copy for each teacher of Geography).

Second Classes. — Harper's Cyclopædia of United States History.

Maps and Globes. — Cutter's Physiological Charts. Charts of the Human Body (Milton Bradley & Co.) Cornell's Series Maps, *or* Guyot's Series, Maps Nos. 1, 2, 3. (Not exceeding one set to each floor.) Hughes's Series of Maps. Joslyn's 15-inch Terrestrial Globe, on Tripod (one for each Grammar School). 9-inch Hand Globe, Loring's Magnetic (one for each Grammar School-room). Cosmograph. O. W. Gray & Son's Atlas.—(To be furnished as new atlases are needed.)

LATIN AND HIGH SCHOOLS.

Lingard's History of England. Harper's Latin Lexicon. Liddell & Scott's Greek Lexicon, unabridged. Eugène's French Grammar. Labberton's Historical Atlas and General History (one book for the desk of each teacher).

NORMAL AND HIGH SCHOOLS.

Charts of Life. Wilson's Human Anatomical and Physiological Charts.

BOOKS FOR SUPPLEMENTARY READING.

BOYS' LATIN SCHOOL.

[45 copies of each book.]

Moss's First Greek Reader. Tomlinson's Latin for Sight Reading. Walford's Extracts from Cicero, Part I.

GIRLS' LATIN SCHOOL.

Sheldon's Greek and Roman History.

LATIN AND HIGH SCHOOLS.

Books required for admission to Harvard College.

A list of suitable books, carefully prepared under the direction of this committee, is presented to the Board for adoption. After this list has been adopted a master may make requisition on the Committee on Supplies for one set (of not more than thirty-five copies) of a book. This committee, after the approval of the Committee on Text-books has been obtained, will purchase the books and send them to the school for permanent use. No books will be purchased until called for in the manner described.

Sets of not more than thirty-five copies — less when the classes are small — are to be purchased for the Latin and High Schools, except the Dorchester High School, which is otherwise provided for. One set is to be allowed for three class-rooms. An extra set is to be allowed for use in more than three and less than six class-rooms in one school; and so on in that ratio.

English. — Barnes's History of Ancient Peoples; Church's Stories from the East, from Herodotus; Church's Story of the Persian War, from Herodotus; Church's Stories from the Greek Tragedians; Kingsley's Greek Heroes; Abbott's Lives of Cyrus and Alexander; Froude's Cæsar; Forsythe's Life of Cicero; Ware's Aurelian; Cox's Crusades; Masson's Abridgment of Guizot's History of France; Scott's Abbot; Scott's Monastery; Scott's Talisman; Scott's Quentin Durward; Scott's Marmion (Rolfe's Student Series); Scott's Lay of the Last Minstrel (Rolfe's Student Series); Kingsley's Hereward; Kingsley's Westward Ho; Melville's Holmby House; Macaulay's Essay on Frederic; Macaulay's Essay on Clive; Macaulay's Essay on Dr. Johnson; Motley's Essay on Peter the Great; Thackeray's Henry Esmond; Thackeray's The Virginians; Thackeray's The Four Georges; Dickens's Tale of Two Cities; George Eliot's Silas

Marner; Irving's Alhambra; Irving's Bracebridge Hall; Miss Buckley's Life and Her Children; Miss Buckley's Winners in Life's Race; Bulfinch's Age of Fable (revised edition). The Boy's Froissart; Ballads and Lyrics; Vicar of Wakefield; Essays of Elia; Tennyson's Selected Poems (Rolfe's Student Series); Tennyson's Elaine; Tennyson's In Memoriam: Byron's Prisoner of Chillon; Goldsmith's Deserted Village; Goldsmith's Traveller; Coleridge's Ancient Mariner; Wordsworth's Excursion; Monroe's Sixth Reader.

French. — St. German's Pour une Épingle; Achard's Le Clos Pommier; Feuillet's Roman d'un Homme Pauvre; Dumas's La Tulipe Noire; Vigny's Cinq Mars; Lacombe's La Petite Histoire du Peuple Français.

German. — Andersen's Märchen; Simmondson's Balladenbuch; Krummacher's Parabeln; Goethe's Iphigenie auf Tauris; Goethe's Prose; Schiller's Jungfrau von Orleans; Schiller's Prose; Boisen's German Prose; Bernhardt's Novellen Bibliothek.

GRAMMAR SCHOOLS.

PERMANENT SUPPLEMENTARY READING.

One set for three class-rooms. An extra set allowed whenever a book is assigned for use in more than three, and less than six, class-rooms; and so on in that ratio.

It is to be understood that hereafter, when Hooker's Child's Book of Nature is to be purchased and furnished to schools, it shall be bound in parts.

It is to be understood that hereafter, when the Guyot's Introduction to Geography is to be replaced with new books, Scribner's Geographical Reader shall be furnished.

It is to be understood that copies of Early England, Harper's Half-hour Series, and six stories from Arabian Nights, now in stock, are to be used, but that no more copies are to be purchased.

CLASS VI.

60 copies for a set. — Seven Little Sisters, first half year. Each and All, second half-year. This is simple, interesting class-reading, which will aid the geography, and furnish material for both oral and written language lessons. Hooker's Child's Book of Nature; those chapters of Parts I. and II. which will supplement properly the observational studies of plants and animals, and those chapters of Part III., on air, water, and heat, which will aid the instruction in Geography. Our World, No. 1; the reading to be kept parallel with the instruction in Geography through the year. Poetry for Children; selections appropriate for reading and recitations.

CLASS V.

60 copies for a set. — Stories of American History; for practice in reading at sight, and for material for language lessons. Guyot's Introduction to Geography; the reading to be kept par-

allel with the instruction in Geography through the year. Hooker's Child's Book of Nature, and Poetry for Children; as in Class VI. Robinson Crusoe.

CLASS IV.

10 copies for a set. — The Wonder Book,
10 copies for a set. — Tanglewood Tales, } as collateral to the oral instructions in Stories in Mythology.

60 copies for a set. — Hooker's Child's Book of Nature, and Poetry for Children; as in Classes VI. and V. Readings from Nature's Book (revised edition). Robinson Crusoe.

CLASS III.

60 copies for a set. — Hooker's Child's Book of Nature; as supplementary to oral lessons. American Poems, with Biographical Sketches and Notes; appropriate selections therefrom.

CLASS II.

60 copies for a set. — Selections from American Authors; as in part collateral to the United States History. American Poems; appropriate selections therefrom.

CLASS I.

60 copies for a set. — Selections from American Authors. Early England — Harper's Half-hour Series, Nos. 6 and 14. American Poems; selections therefrom. *10 copies for a set.* — Green's Readings from English History. Phillips's Historical Readers, Nos. 1, 2, 3, 4.

ANY CLASS.

60 copies for a set. — Six Stories from the Arabian Nights. Holmes's and Longfellow's Leaflets, published by Houghton, Mifflin, & Co. *3 copies for a set.* — Book of Golden Deeds.

CIRCULATING LIBRARY PLAN FOR GRAMMAR SCHOOLS.

The object of the plan is not only to aid pupils to cultivate a taste for good and wholesome reading, but, by furnishing them with good books for home reading, to provide additional material for their work in composition and the study of English literature.

Sets of suitable books will be purchased, each set consisting of sixty books.

The sets will be distributed among the first eight school divisions during the present year. — the ninth division being already well supplied with books for supplementary reading.

Each set will be put in a strong, well-made box, with handles; the boxes to be made for the purpose, each set exactly fitting its box; the division to which it belongs, and the kind of books it contains, to be marked upon each box.

A report card, upon which the principal shall note the condition of books when received, will accompany each set. The principal of the school shall receive the books, note on the report their condition, and see to their distribution in the classes.

The sets of books in each division will form a circulating library in that division, to be moved from school to school at stated periods by the regular supply team. The transfer of boxes will take place during the months of December and March.

[Sets of not more than sixty copies of one book.]

Zigzag Journeys in Europe (Revised edition) ; Zigzag Journeys in the Orient (Revised edition) ; Scudder's Boston Town ; Drake's The Making of New England ; Towle's Pizarro ; Towle's Vasco da Gama ; Towle's Magellan ; Fairy Land of Science ; Hawthorne's True Stories ; Higginson's Young Folks' Book of Explorers ; Scott's Ivanhoe ; Longfellow's Evangeline ; Little Folks in Feathers and Fur ; What Mr. Darwin Saw in his Voyage around the World in the Ship Beagle ; Muloch's A Noble Life ; M. E. Dodge's Hans Brinker ; Lambert's Robinson Crusoe ; Lamb's Tales from Shakespeare (Revised edition, Houghton, Mifflin, & Co.) ; Abbott's Jonas on a Farm in Summer ; Smiles's Robert Dick, Geologist and Botanist ; Eyes Right ; Alcott's Little Men ; Alcott's Little Women ; Stoddard's Dab Kinzer ; Scott's Kenilworth ; Tom Brown's School-Days at Rugby ; Abbott's Mary Queen of Scots ; Abbott's Charles I. ; Taylor's Boys of Other Countries ; How Marjory Helped ; Little People in Asia ; Gilman's Magna Charta Stories ; Overhead ; Yonge's Lances of Linwood ; Memory Gems ; Geographical Plays ; Ten Boys Who Lived on the Road from Long ago till Now ; Scott's Tales of a Grandfather ; Hayes's Cast Away in the Cold.

PRIMARY SCHOOLS.

PERMANENT SUPPLEMENTARY READING.

One set for three class-rooms. An extra set allowed whenever a book is assigned for use in more than three, and less than six, class-rooms ; and so on in that ratio. Not more than sixty copies for a set.

[1] Easy Steps for Little Feet. [1] Popular tales — First and Second Series. Parker and Marvel's Supplementary Reading (First Book), Tweed's Graded Supplementary Reading, Modern Series Primary Reading, Part I.

CIRCULATING SUPPLEMENTARY READING.

[For Primary Schools and Ungraded Classes.]

Sets of books will be purchased, each set consisting of not more than thirty books.

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[1] The books of the above titles in stock to be used, but no more copies to be purchased.

The sets will be distributed among the nine school divisions.

Each set will be put into a strong, well-made box, with handles. The boxes to be made for the purpose, each set exactly fitting its box; the division to which it belongs, and the kind of books it contains, to be marked upon each box.

A report card, upon which the teacher shall note the condition of books when received, will accompany each set. The head teacher of the school shall receive the books, note on the report their condition, and see to their distribution in the classes.

Each book will be covered with cloth, and stamped "City Property," with the date of its introduction into the schools.

The sets of books in each division will form a circulating library in that division, to be moved from school to school by the boys of the first class, at stated periods, as directed. When practicable, each division is to form one circuit; when not practicable, two or more circuits shall be formed.

For instance, the Third Division will consist of two circuits: —

1. Somerset-st. School, Anderson-st. School, Phillips-st. School, Blossom-st. School, Poplar-st. School, Chardon-court School.

2. Cushman School, Sheafe-st. School, Snelling-pl. School, Charter-st. School, North Bennet.-st. Ungraded Classes.

It will be seen that the distance between two schools is so short that the larger boys can easily carry the books; so that they will be conveyed from school to school without expense to the city.

The books shall be in the hands of pupils only when used under the immediate direction of the teacher. They are never to be used in copying, or to be kept in the pupils' desks. A set of well-bound books will last from three to five years, if properly used and handled.

In order to keep the supply sufficient to meet the wants of the schools new sets may be duly approved and purchased each year, or sets may be replaced as the books are worn out.

[Sets of not more than thirty copies.]

First Readers. — Monroe's, Monroe's Advanced First, Appleton's, Harvey's, Eclectic, Sheldon's, Barnes's New National, Sheldon & Co.'s, The Nursery Primer, Parker and Marvel's Supplementary Reading — Second Book, Wood's First Natural History Reader, Stickney's First Reader, McGuffey's Alternate First Reader.

Second Readers. — Monroe's, Monroe's Advanced Second, Appleton's, Harvey's, Lippincott's, Sheldon & Co.'s, Barnes's New National, Analytical, Macmillan's, Swinton's, New Normal, Easy Book (published by Shorey), Turner's Stories for Young Children, Our Little Ones, Golden Book of Choice Reading, When I was a Little Girl, Johonnot's Friends in Feathers and Fur.

SCHOOL DOCUMENT NO. 21—1887.

REPORT

OF THE

COMMITTEE ON EXAMINATIONS

ON THE

SUBJECT OF ESTABLISHING KINDERGARTENS IN CONNECTION WITH THE PUBLIC SCHOOLS.

DECEMBER, 1887.

BOSTON:
ROCKWELL AND CHURCHILL, CITY PRINTERS,
No. 39 ARCH STREET.
1887.

In School Committee,
Boston, Dec. 13, 1887.

Accepted, and ordered to be printed.

Attest:

PHINEAS BATES,
Secretary.

REPORT.

BOSTON, Dec. 13, 1887.

The Committee on Examinations present their report on the establishment of Kindergartens as public schools.

The following letter was addressed to the School Committee in May last, and referred to the Committee on Examinations: —

PERKINS STREET, JAMAICA PLAIN, May 10, 1887.

To the President and Members of the School Board: —

MR. PRESIDENT AND GENTLEMEN, — In the last report made by your Superintendent, Mr. Seaver, he called attention to a matter which has long been of great interest to me, and for which I venture to ask your further consideration. The free Kindergartens now existing in the city of Boston have been established since 1878. They have been developed sufficiently to show the great value of Fröbel's system for very young children, and the results are such that all those who have looked into the subject are unanimous in their belief that it forms the necessary basis for future work in all grades and for all studies and occupations. This system has been in practice in many of our cities with great success, and in several important places has already been incorporated into the public-school system. Is it not time that some movement should be made in Boston to investigate its value, and to see whether it is such as to warrant its adoption into our schools for children from four to six years of age?

Will you appoint a committee of investigation to look into the present workings of the Kindergartens, with a view to ascertaining the value of this system in connection with our public schools?

I shall be glad to see any members of the committee you may appoint, or any members of the Board, to give them statistics, or any information that I can on the subject.

Yours truly,

PAULINE A. SHAW.

When Mrs. Shaw entered upon the work which she now commends to the consideration of the School Committee, some of those interested in it regarded it as more suited to private than to public maintenance. Into the reasons for this opinion it is not worth while for us to inquire at the present time. Under her management and munificent expenditure, for which it is needless for us to express our gratitude, or that of the thousands among our children and their families whom she has benefited, the Kindergarten has been so conducted and improved as to assume a new relation to our school system, and now appears as fully entitled to incorporation in that system as any existing grade of schools. For this judgment we propose to explain the grounds as we proceed. We have only to state, at the outset, that Mrs. Shaw is now supporting fourteen Kindergartens, with more than eight hundred pupils, in the city, and that she offers these with their well-trained and experienced teachers to be adopted by the School Committee. All that has been involved in making the experiment, all that saves the public from the trials and inevitable drawbacks attending a new educational enterprise, all that personal devotion can contribute to the success of such an enterprise, has been done for us and for the community. We are asked to reap the fruits of labors already performed, and whatever may be our answer, whatever we may do, or hesitate to do, one thing, at least, may be done with universal consent, and this is to appreciate the value of the educational results that have been secured. Let us put aside all prejudice, all prepossession of every kind, and see these schools as they are, the women teaching in them, the children taught in them, and rejoice that we have been permitted to behold such an example of public spirit and charity.

Philadelphia has this very year taken the action which we are about to recommend to our own city. The first Kindergarten was opened there in 1879. It was confessedly in imi-

tation of the work begun here by Mrs. Shaw, and the support of it was drawn entirely from private sources. Several Kindergartens were in existence when the Sub-Primary School Society was organized in 1881, and so rapid became the increase of these schools that aid was sought from the City Government, and a public grant to the society was made in 1883, and continued in successive years. Last January thirty-two Kindergartens were transferred by the society to the Board of Education, to the entire satisfaction of both parties, and the Kindergartens are now public schools of Philadelphia.

Such, then, are our opportunities. We have a number of well-established Kindergartens offered for our acceptance, and a sister city, in precisely similar circumstances, having accepted the Kindergartens originated by private enterprise, sets the example of the same step to be taken here. Is there any reason why we should not take it? Nay, are there not very strong reasons why we should, and make the Kindergarten a part of our school system from this time forward?

Let us be sure that we understand what a Kindergarten is. It is sometimes regarded as much the same thing with a day nursery, to which very young children, especially of the poor, may be sent for safe-keeping while their parents are busy with other cares. But as a day nursery is not, and a Kindergarten is, a place of training, they are evidently not the same. Neither is a Kindergarten a primary school, for its instruments and methods are very different; it does not make use of books, or of common school appliances, nor does it claim or desire that discipline or repression to which our primary pupils are generally subjected. The Kindergarten is properly a school to train little children as if they really were little children; to train them certainly, but not to subdue them, to give them moral and physical

training quite as much as intellectual, and so to give it as to make them glad to receive it and able to avail of it.

The benefits of such a training to the child are self-evident. His heart is the first object; and all its waiting affections are stirred towards his teacher and his companions. He is taught to be considerate and generous; to respect those about him; to acquire or mature habits of politeness, cleanliness, and general good-behavior; and all the while that he is learning these most important lessons, he is also learning to use his eyes, his hands, and his mind; to know forms and colors, numbers and relations; to exercise his constructive powers, and thus to be getting ready for the work of older schools. This preparation for the instruction to follow is the end and the test of Kindergarten training. If this training were to unfit a child for the next grade of schools, it would deserve the condemnation sometimes passed upon it, and no proposal to adopt it into the system of our Public Schools could be entertained. But if it really fits a pupil for a Primary School, and fits him in such wise that he can do better in a Primary School than one who has not received the same preparation, then its incorporation into our system would seem to be a measure against which objections would batter in vain. Can we doubt that a course such as has just been briefly described must of necessity render a pupil more responsive to Primary training? There are not very many homes, even among the most favored, that can teach their children as the true Kindergarten does, while hundreds and even thousands of homes in a city like ours are incapable of making any real approach to similar influences over their younger members.

Of course we are taking for granted that the Kindergarten is a strictly educational institution. Time was, and not very long ago, when the education given by it, or by some of the schools called by its name, was of very doubtful value. It may be that this report will be read by some of

those to whom the Kindergartens they happened to know wore an uncertain aspect. They may be assured that the quality of Kindergarten training has greatly improved, particularly during the last few years. All, or almost all, of its abnormal characteristics have disappeared, and it is now pursued with as much common sense, or, we may say, with as much scientific knowledge, as any other branch of public instruction. Upon this thoroughly educational character the Committee reporting desire to base their appeal for the adoption of the Kindergarten by the School Board.

Should there be any doubt, however, on this point, we ask the attention of our colleagues to the very full and striking testimony of Boston Primary School teachers hereto appended in a report from the Superintendent of Schools. Their replies to the main question put to them whether the pupils they have received from Kindergartens were better prepared than others for Primary studies, are not all favorable; but the great majority are, and their experience, as they relate it, appears to us far more conclusive than any argument which we can frame in support of Kindergarten training. It may be doubted if any equal number of competent witnesses has ever been publicly cited in behalf of the Kindergarten.

The present educational position of the Kindergarten in Boston has been gained by the higher qualifications of the teachers employed in it. They have had not only a general, but also a special training, adapted to the service they have entered, and enabling them to form clear ideas of what they were to do, and to use direct and sensible methods in doing it. They have been taught what all teachers need to learn, namely, reverence for little children; and it is this principle, above all else, that has raised the Kindergarten to the place it now holds in education. Evidently, if the city is to take this grade of schools into its care, it must provide some means for continuing the training of those who

are to teach in them. A new class must soon be formed in the Normal School, and greatly is it to be desired, first, that the Normal School will prove itself equal to this unwonted demand upon it, and second, that none but women fitted by nature to teach the youngest pupils shall be taken under training. The time is passing, if not quite past, when the care of little children was imagined to need less capacity or experience than that of older scholars. If there is any line to be drawn, it is in favor of the higher abilities required to give children their starting impulses, their earliest motives, their first sweet glimpses of duty and truth. Should Boston train a body of teachers for such teaching as this, it would be a bright promise of better education.

The incorporation of the Kindergarten into our school system is a measure of equipoise. There is a suspicion that the system as it stands is rather top-heavy. We have been adding at sundry times to the more advanced stages of instruction, multiplying studies in Grammar Schools, enlarging High Schools and their courses, organizing a new Latin and a Normal School. All this is well if wisely done, but it is all at one end of the scale. The other, and, to the majority of public-school children, the more important end has remained unextended. Indeed, it may be said to have been curtailed, though not by any legislation, for it is a singular fact by no means generally understood, that the number of the youngest Primary pupils has been diminishing for several years. This may be partly, but far from wholly, explained by the attractions of the Kindergartens which we are now proposing to adopt; but however accounted or unaccounted for, it is a decrease of that very class of pupils whom we should seek to increase. Large numbers of boys and girls are withdrawn by their parents before advancing to the upper classes of our schools. Their wages are, in many cases, essential to the family, and even where they are not essential, the father or the mother being uneducated, fails to appreciate the

education of the child, and impatiently takes him out of school. It is plain enough that all this is a loss not only to the children, but to the city in which they are to live as men and women. If it can be made up to them, it is an advantage to the whole community, for which every possible exertion should be heartily sustained. If more time cannot be found at the close, it must be at the beginning of the period of instruction, and here it is that the Kindergarten offers its ready aid. Beginning at an earlier age than the Primary School, it adds to the school-life of children just where addition is practicable. Nor does it add time alone. Its character as a means of moral training, to say nothing of its distinctive work with the senses and the hands of the pupil, tells strongly upon his education in the very direction where the great body of our children most need to be educated. An earnest supporter of the Philadelphia Kindergartens uses strong language: "The free public Kindergarten may be justified on the ground that it is the best, if not the only, means of attaining the object of all public educational systems, viz., popular education."

One more reason, and a very sound reason, for adopting the Kindergarten into our school system is the beneficial effect to be expected from it in the other grades of training. There can be no question that even before its adoption it has had a mellowing influence upon many of our Primary Schools, softening their discipline and brightening their lessons through and through. If felt there, the influence must continue to be felt in the Grammar Schools, to which every pupil carries the spirit formed in earlier years. We are strongly of the opinion that if the public Kindergarten is under wise oversight, and in competent hands, it will minister to the elevation of Primary, Grammar, High, and Normal schools; that is, of every school whose pupils have received their first school instruction on the principles now identified with the

Kindergarten. The nature of an educational system is determined by the manner in which it is begun.

It is estimated that the adoption of the Kindergartens offered by Mrs. Shaw, and the organization of others in different parts of the city, so that no quarter may be left wholly unprovided with a Kindergarten, will involve an outlay of twenty thousand dollars for the first year. It will be found necessary to proceed gradually. The Committee on Examinations therefore recommend the passage of the order subjoined. Before offering it they have had the advantage of conferring with the Committee on Accounts, and obtaining their cordial assent.

SAMUEL ELIOT,
FRANCIS A. WALKER,
JOS. D. FALLON,
GEO. B. HYDE.

Ordered, That the Committee on Accounts of the year 1888 be requested to include in the estimates for 1888–9 the sum of twenty thousand dollars, for the support of public Kindergartens during the year.

APPENDIX.

REPORT UPON THE EFFECT OF KINDERGARTEN INSTRUCTION AS OBSERVED BY THE TEACHERS OF THE YOUNGEST CLASSES IN THE PRIMARY SCHOOLS OF BOSTON, SUBMITTED TO THE COMMITTEE ON EXAMINATIONS BY THE SUPERINTENDENT OF SCHOOLS, NOVEMBER, 1887.

To the Committee on Examinations:

Gentlemen, — In pursuance of your instructions, received by me last June, I issued the following circular, for the purpose of gathering information as to the observed effects of such Kindergarten instruction as some of the Primary School children may have had before entering the Primary Schools: —

Superintendent's Office, Mason St., 18th June, 1887.

To the Teachers of Class III. in Primary Schools:

For the information of the committee now having the Kindergarten question under consideration, you are requested to answer the following inquiries, and to add such further remarks as your experience or your interest in the subject may suggest: —

1. How many years have you tanght beginners in the Primary School?
2. During that time about how many pupils have you received into your class each year from Kindergartens?
3. Have you a clear impression as to the effect Kindergarten training has had upon children you have afterwards taught? If you have, please describe it.
4. In your opinion, is the Kindergarten training an advantage or a disadvantage in relation to the Primary School work that follows?

5. Would your present work be advanced or made easier in any way if all pupils took a year of Kindergarten training before coming to you?
6. Further remarks.

Please respond before vacation, addressing the Superintendent of Schools.

Respectfully yours,

EDWIN P. SEAVER,
Superintendent of Schools.

This circular was sent to about two hundred teachers, — those who taught the third, or youngest, class in the Primary Schools. The number of replies received was one hundred and forty-eight. Among the teachers replying were forty-nine who had received few or no pupils into their classes from Kindergartens, and had formed no opinion, from experience or otherwise, on the merits of the Kindergarten training. The remaining ninety-nine expressed opinions, eighty-six of which were favorable and thirteen unfavorable to the Kindergarten. A portion of these opinions, however, were not based on experience with children coming into the writers' own classes from Kindergartens, but only on a general acquaintance with Kindergarten methods obtained through reading and observation. If such opinions are set aside, there remain the opinions of those who have received considerable numbers of children into their own classes from the Kindergartens, and who, therefore, have had good means of judging. Opinions of this sort are seventy-five in number, sixty-six favorable and nine unfavorable. Thus, in either case, we find for every unfavorable opinion about seven favorable ones. The general verdict is, therefore, favorable in the ratio of seven to one.

Passing now from the counting to the weighing of these opinions, we have to examine the evidence contained in the ninety-nine written replies. This evidence is varied and interesting, and, were there time, well worth reading through. It cannot easily be tabulated or condensed without robbing it of color and force. The best course, therefore, seems to be to present a limited number of replies in full, such replies being chosen as will cover all important points and convey to your minds a just impression of the whole body of evidence. Both favorable and unfavorable opinions are presented, the latter in rather more than the due proportion, perhaps, with a view to bringing out every variety of objection. In every instance, save two, the reply is presented in full, with only such verbal changes as were needed to make the construction smooth; in these two, extracts are given. It may be added that the selection

contains no reply the writer of which is not a teacher of recognized skill and of good or excellent standing, and who, as such, is not well qualified by ability and experience to judge of the effects upon children of any particular system of training.

In reading the evidence there are four leading inquiries which may well be kept in mind.

1. What are the effects of Kindergarten training as regards positive intellectnal growth?
2. What are the effects in respect to moral development?
3. What advantages in the management and discipline of the schools may come from keeping the very young children by themselves, and giving them a Kindergarten training before putting them upon the regular Primary School course now generally followed?
4. What personal benefits in the way of protection and nurture accrue to the children, particularly to the children whose home advantages are not all that could be desired?

THE ANSWERS.

1. I have taught beginners twenty-six years, but had no experience with Kindergarten children until about eight years ago. During that time I have received about twelve or fifteen each year from the Kindergarten. I have found that the Kindergarten training has a beneficial effect on the children in various ways. Their perceptive faculties have been trained, consequently they observe more closely. They have been taught how to hold their pencils, and can write and draw with greater facility than children coming to me directly from their homes. And they have a good idea of number, as they receive training in that direction. In my opinion, the Kindergarten training is an advantage to the Primary School work. The present work would be made easier if all the pupils could take a year of Kindergarten before coming to me.

2. I have taught beginners seven years, and have received into my class from the Kindergartens each year about twelve children. I have found most of these children very wide-awake and intelligent, and prepared to take up readily the Primary School work. They were, generally, very observing, had clear ideas, and expressed them intelligently. They were more skilful with their pencils, and had a better idea of numbers and their relations than those who had not had this training. Our present work would be advanced somewhat if all pupils took *a year* of Kindergarten training before entering the Primary Schools; but it

would be a greater help to us if they could have *two years* of this training.

3. I have taught beginners seven years, and have had many children from the Kindergarten, but have made no separate list of them. The observing faculty has been trained, and children from the Kindergarten gather knowledge much more easily than those who have not had that training. The facility of execution is also much greater. The children learn to write much more quickly, because they not only recognize the form of the letters more easily, but they are not afraid to use their fingers. I would like very much to have a year of Kindergarten work preparatory to the third class.

4. I have taught beginners nearly four years, and have received eight children a year from the Kindergarten. A child who has had a Kindergarten training advances much more rapidly and satisfactorily than a child who comes directly from home. This is shown most distinctly in number-work and drawing. The effect of the training is good, in that the children can immediately begin to do the school-work. It also has a good result as regards discipline, these children working more busily and quietly than the others.

5. I have taught beginners fifteen years, and have received into my class a yearly average of six children from the Kindergarten. I have for a long time been impressed with the desirability, and, perhaps, necessity, of a Kindergarten or some kind of preparatory course for the children, before entering upon the real work of the Primary School course. Many of the children are far from ready, at five years of age, for the work; and some, by their mistaken, over-zealous parents, get into school before they are five years old. Their minds are not capable of taking in easily and readily what is expected of them during the first five months of school life; hence it often happens that children are not fully prepared, or are hastily prepared, or are left behind to go over the course again. These difficulties could be overcome by a preparatory course. Of late years the children from the Kindergarten have been much more satisfactory than formerly, owing to the better understanding of the Kindergarten system, and the better preparation of the Kindergarten teachers. I do not think it makes brilliant scholars of dull ones, or that the Kindergarten children dash ahead of the others: but it gives them a slow, happy, healthful, awakening into school life. It gives a mental poise and self-reliance that shows itself even at that early age. This I have repeatedly observed. I think it would prevent the feeling of anxiety and haste which teachers of the third class unconsciously, but un-

avoidably, get from the pressure which comes with starting every new class. Not only the moral character, the physical condition, and the mental habits have to be studied, but a pretty good start given in all the Primary School branches. The irregular attendance of the little beginners would not have so disastrous an effect in a Kindergarten as in the regular course, where each step is carefully planned for daily advancement. I would suggest the *age* of the child as the condition for entering upon the regular Primary School work, rather than the length of time or his proficiency in the Kindergarten. My experience has found six, or six and a half, with few exceptions, a better age than either five or seven, for beginning this work.

6. I have taught beginners eleven years. I have never had a pupil who has had Kindergarten training, but I have visited Kindergarten schools several times, and am convinced of the advantage of this training as a preparation for the work of the Primary School. Children thus trained know how to observe, know how to talk, and know the ways of the schoolroom quite well. Every year I am obliged to spend much time in simply getting the children ready for the work of my grade. With some children it takes a long time to accomplish this. All this might be saved. In the Kindergarten all our observation work gets well started, the children learn to observe more keenly, and they become so skilful in using their hands that they are much better prepared for the work in writing and drawing. In fact, it seems to me that the work of our lowest grade Primary can never be what it might and should be, until the children who enter it have been prepared by a Kindergarten training.

7. I have taught beginners in a public school two years, and in a private school two years. I received from two to seven pupils each year from Kindergartens. I feel assured that the drudgery of my present work would be lessened one-half if all children had a year of Kindergarten training before entering upon third-class work. I have taught in Kindergarten two years, both in Mrs. Shaw's institutions and in a Western city, and I unhesitatingly say that if all third-class children had a year's Kindergarten training behind them, half as much more work could be done by them in one year than is done now. Many children come to me now with faculties so little developed that it takes the greater part of a year to awaken them and prepare them for the beginning of their work.

8. I have taught beginners five years, and have received very few pupils from the Kindergarten, — not more than six. The few I did receive

were very bright, intelligent children, and understood how to *go to work* when told. I believe their Kindergarten training taught them to observe and imitate more readily than they otherwise would have. It seems to me that Kindergarten training would be of advantage, inasmuch as it would give children (the poorer ones at least) many new ideas, train their powers of observation and imitation, and give some of them a little better command of language than they now have; for it certainly takes many children some weeks to become acquainted with school life, and gain power and courage enough to express their simplest thoughts. Another advantage would be that teachers would not have to receive such very young pupils; for oftentimes children seem to be scarcely more than four, while parents always proclaim they are "just five"; and we are obliged to keep them longer in the lowest grade than we could wish.

9. I have taught Primary School thirty-two years, — beginners about twenty years, — began to receive children from Kindergartens about ten years ago, — think I have received ten or twelve each year. I have a clear impression as to the effect of Kindergarten training. Children from Kindergartens have received a training in habits of neatness, cleanliness, order, self-reliance, and prompt obedience, which is a great saving of time to the Primary teacher. They have also formed habits of *observing closely*, and using their hands properly. All their faculties have been so cultivated that no time is lost in preparing them for Primary School work. Children belonging to cultivated families, who can have a judicious mother's careful training, in my opinion do not need a Kindergarten; but it is almost a necessity for the majority of children under our charge. I consider the moral training which the Kindergarten gives to children of an almost priceless value. We who have from fifty-six to sixty or more children cannot so carefully watch each little one, learn its peculiar traits, temperament, etc., *as should be done*, during the first months of school life. Kindergarten teachers do much in this direction. I think the training in habits of truthfulness, unselfishness, and thoughtfulness for the rights of others of untold value to the children, and a great assistance to the Primary teacher.

10. I have been teaching beginners four years and a half. This year about one-third of my class are from the Kindergarten. My impression is decidedly favorable. In our district we have many foreigners who when they come to us do not speak English, and it is a decided advantage to have them learn our language in the Kindergarten. In the case of English-speaking children, the ones from the Kindergarten are the better prepared for the work. They have none of the

shyness felt by children when they first leave home to attend school. They take hold of the slate-work better; they are not afraid to make an effort; they have done considerable "busy work" in the Kindergarten, so when the slates are given out and the copy set before them they do the best they can; they express themselves better in conversation; and have more general information that shows itself in object-lessons. At this school the Kindergarten teacher invites my class into her room once a week for half an hour, and we join in their songs and games. In this way I become acquainted with the children who are to come to me; and my children sing over their old songs and learn new ones, which is a help to me in singing, and a pleasant recreation for the little folks. The Kindergarten children seem happy in their work and play; and, when we take into account the surroundings of many of our children, I think the time spent in the Kindergarten must be the pleasantest time in their lives.

11. I have taught beginners seven years, and have received into my class three or four children from a Kindergarten. I have visited the Kindergarten at the North End and at Chauncy Hall, and observed in that direction as frequently as possible. During the last two years, with the advice of our principal, I have worked in as much as conveniently could be done such portion of Kindergarten work as would be helpful in the way of busy work and recreation. The children whom I receive are fresh from home; and it serves, in the first part of their school life, as a sort of school nursery, where they can become acquainted with school ways, their time made to pass pleasantly; and so the children are made ready for real school-work. Quite a number of children enter school who are not five years old, as I have sometimes found out by consulting the city records, although their parents have said with firm answer, "The child is five." These and some others who although five in years yet have backward minds are the children who are adapted to the Kindergarten work. For two or three years my class has been composed exclusively of children under six. Thus I am enabled to work out some Kindergarten: perhaps it is hardly worthy the name — only an approximation. The teacher who takes pupils from me says with me, "It is a good plan."

12. I have taught beginners eight years, and have received from Kindergarten a very few children, not more than one or two a year. My experience with regular Kindergarten children has been so limited I cannot say what the effect of Kindergarten training is. For the last two years I have been doing the most elementary work in the third class, and have used many Kindergarten methods, games, motion songs, and

some few of the gifts. The teachers in the building say they get excellent results from such foundation-work.

13. I have taught beginners for five years, and have received into my classes an average of ten pupils a year from Kindergartens. My experience has been among children naturally excitable and with little power of application or concentration, — children unusually quick to observe, but with very little inclination to apply themselves. Among these, the children from Kindergartens have been marked more by habits of attention and industry than by anything else. I have no hesitation in saying that, as far as my school is concerned, the work would be lessened one-third if all the children had a previous Kindergarten training. Children from the Kindergartens accept school discipline more readily, and their minds are better prepared to begin school studies. Such children are able to begin the studies of the third class immediately, while others have to undergo considerable preparatory work in the direction of quickening the power of observation and of fixing the attention. I have wished that more of my children had the advantage of the mental and moral training of the Kindergarten, and that I had the benefit of more Kindergarten children.

14. I was four years in the lowest grade of the Primary School, and received from four to eight pupils yearly from the Kindergarten. It was always a pleasure to receive those children; for their perceptive powers were keener, and their power of memorizing more active. Thus they were enabled to take up reading, writing, and slate-work much easier than they would have done if they had not had the previous training. Besides the intellectual development, they were apt to be more polite and courteous towards each other; and they were more self-reliant. The only disadvantage, and that a very slight one, was, that children used to the freedom of a Kindergarten did not come as readily under the stricter rules of a Primary School as those that came directly from home. If it should ever happen that I had to take the lowest Primary grade again, I would much prefer that children should have a Kindergarten training before entering my class.

15. I commenced teaching in this school in 1867. I have received quite a number of children from the Kindergarten, but cannot give the figures, having kept no separate account. These children can be distinguished from the others without fail. Their training has been of very great advantage to them, and they are noted for their excellent attention and ready obedience to rules. As regards ages, we have fewer each year of children under age, for upon application we send them to

the nearest Kindergarten. Unfortunately they cannot always be accommodated there, the capacity of the Kindergartens being limited.

16. I have taught beginners twelve years, and have received from the Kindergarten about twelve or fifteen children a year. They are more attentive and more observing than the others; better prepared for our number lessons; and, as a rule, show the effects of good discipline, which most of the children under my charge do not receive at home. I should think children would be better prepared to take up Primary School work after a year in the Kindergarten, especially in a district like this, where children receive little or no training at home, either mentally or morally.

17. I have taught beginners two years, and have had eleven pupils who had been in Kindergartens from six months to two years. I think the Kindergarten training is a decided advantage to the pupil. I notice its effect particularly in the object-lessons, the drawing, and, in a slight degree, in the writing lessons. These children from the Kindergarten also learn to express their thoughts and observations more freely than children possessing equal ability, but coming directly from home to the Primary School. The Kindergarten children are able to make closer comparisons, and to detect obvious differences far more quickly than the average child coming to school for the first time. Again, the child from the Kindergarten will generally concentrate his attention, and reach a result or conclusion more quickly than our home child who has not passed over this bridge between his baby-life and his actual school-days. Little children coming to school for the first time, from homes where they have received more or less personal attention and watchful care, cannot all at once understand that, to a certain extent, all this is over. The teacher's care must be not the individual, but the class; and her aim the greatest good to the greatest number. Almost every teacher in the beginners' class can tell of many an outbreak of homesickness and utter loneliness, during the early months of the term. With little children, it seems to me, such feelings are as hard to bear, and just as deep, as any of the older folks' emotions. More transient they may be, but none the less real. The teacher of fifty-six (or perhaps more) children cannot devote very much time to individual petting; and, consequently, the child battling alone with all these contending emotions during his first school-days does not get ahead as fast as if he possessed more confidence. The Kindergarten training is just the one thing needed in a case such as I describe, which is not a rare one by any means. In the Kindergarten they learn to mix with other children, to give up to them to some extent, and to understand that the rights of others must be respected. I think

our work would be advanced if every child received this previous training. We could accomplish *more* with such a class; but that we could do it any more *easily* I do not quite see. I should like to compare results after a year's work with a Kindergarten class, with results of a class where the Kindergarten children were in a minority.

18. I have taught beginners fourteen years, and have received an average of fifteen pupils a year from the Kindergartens since they were established. I have noticed the children are acquainted with a school-room. I have not been troubled with children crying, as formerly, the first days of school. I have also noticed a beginning in number, form, and music. Have intended to write Mrs Shaw, thanking her for the benefit I have received from her Kindergartens. I really think them an excellent training for that age and a benefit to all schools.

19. The pupils of the third class, Primary, although five years of age on entering, are, very many of them, mere babies. Some have had all their little whims and fancies satisfied by indulgent parents; some, having never left their mother's care, look upon the school-room and children about them as something frightfully strange, and wholly unendurable; others are from homes where the training of the children has been wholly neglected. I might go into details, and tell more definitely and broadly my experience. I merely wish to show that teachers of this grade have considerable "taming" to do before touching upon that which is necessary. A Kindergarten removes this preparatory work. Not only that, but the children have been learning something suitable and advantageous to themselves. Here again I might explain what and how. To one interested in Kindergartens, it will be unnecessary to state the many ways the teacher has of guiding, improving, and making better and happier the characters and dispositions of little children. There is a natural, simple, and truly philosophical way of drawing out the better and higher part of child-life. This is what I believe the teachers of Kindergartens aim at. If this is accomplished, the work of the third class is made easier; for the children are already acquainted with a school. Taking that as one point gained, we can begin our work more advantageously, and make surer progress. The children know how to mind. Any third-class teacher will realize this last advantage. Knowing how to mind means trained to pay attention, and do as guided. This principle, properly inculcated, means progress in all the branches taught in this grade. We can go ahead with real work, made agreeable and suitable. No drawbacks of weeks, and sometimes months, in getting the children acquainted with what is, to them, a great change in their little lives.

20. I have taught beginners about twenty-six years. Since Kindergartens were established, I have received, as a yearly average, about six pupils. I have a clear impression as to the effect of the Kindergarten training upon those children. They could speak some English sentences, and sometimes fairly correct English, so far as their vocabulary extended; they had some idea of obedience; were somewhat skilled in handicraft; could see when they looked at an object; were polite in little ways, both of speech and manner; were comparatively neat about slate-work and the use of books, as well as happier in personal cleanliness; were more kindly disposed when at play; and, by no means least, were far more honest and truthful than some other children from the same localities. In my opinion the *true* Kindergarten training is of great advantage to *all* little children, but particularly so to those unfortunate little folks whose parents are, from ignorance or indifference, unfaithful to the duties every parent owes childhood. I believe my year's work would be of still more value to my pupils if all could have a year of such training as the Kindergartener in this district gives her pupils. Her moral power, I believe, is of almost incalculable value to young children. I deem it of the utmost importance that only those ladies should have charge of the Kindergarten work who are particularly adapted to the needs of childhood, and whose *own* moral perceptions are so keen that they *could not* be unfaithful to their high trust. I believe such teachers should naturally unite great firmness with rare gentleness, and a conscientious devotion to their work, qualities *not* found in every lady who proposes to take charge of children; and that unless a very careful discretion is exercised in the *selection* of those who have charge of and do this work, it will be very disappointing in its results, and the great moral power desired and needed will be lost.

21. Very frequently, indeed from the beginning of spring I might say daily, children too young to enter school, but old enough to toddle about the streets seeing and hearing all sorts of profanity and vice, gather round the rails of the school-yard, listening to the voices of the children within singing or reciting, and evidently enjoying listening. They even creep up the steps to the school-room door itself, so eager are they to "go to school." These children are quick to learn bad as well as good, and before they enter the Primary School little seeds have been dropped, little habits formed, which all the teacher's efforts cannot overcome. As, for instance, little five-year-old boys coming to school with dirty old "butts" of cigars, and old pipes too, in their pockets, scenting their immediate vicinity with the disgusting odor; and, when questioned about it, denying most stoutly that they ever touch tobacco in any form. Such cases I have been shocked to find among my little pupils. And more

numerous still are the cases of children who do not hesitate to use profane language, or to take what is not their own, because they have not been trained to perceive right and wrong, and, being great imitators, naturally do as those round them do. Were these children earlier placed under the care of an earnest, patient Kindergartener, where they would be away from hurtful associations, and taught to respect one another's rights, who can estimate the great gain morally to the community. Frequently parents have brought their little children to school saying, "I know he is not five years old. He will go on the street, and I can't look after him. I'm so busy. He does learn such naughty things. Can't you take him? I don't care if he does not learn a thing, if you will only let him come." And then from the teacher's heart goes up an earnest cry for the Kindergarten.

22. I have taught here twenty-five years, with great pleasure, until within a few years. I heard a criticism of my school, which was this: "Miss ———'s school does not seem at all like a school; it appears exactly like a home. Now, you have better order than she does." Knowing what this meant, I changed my ways, not to suit myself surely, but those in authority. So, for this reason only, I object to children coming from Kindergarten schools, because they are so much at home, and it is very hard to bring them to the order expected in the public schools. If I had a child to send to school I should want it, by all means, to go to a Kindergarten, but not to my school afterwards. Life is a burden to the children when, before their school, it has been a joy and a delight. Scholars from a Kindergarten are active, bright, intelligent, and have been taught many nice little ways, so that it is a pleasure to carry on what has been so favorably begun. I think it cruel to send a child to a Kindergarten, and then send it to a school where the teacher is obliged to be a martinet, and where there are between fifty and sixty pupils.

23. I have taught beginners eight years, and have received from the Kindergarten from six to twelve children each year. I have found that such children are trained to see accurately, work carefully and correctly, and have their imagination and language developed. I think, on the whole, Kindergarten training is very helpful in our school-work. One disadvantage is, that the children are somewhat helpless when given work to do without the teacher's constant oversight. They are so used to showing each step, and being encouraged by word or look, that for a long time it is difficult for them to keep at work, even a short time, without the teacher. I have never had third class alone, but always a part of the second class with the third. This fact accounts for my inability to work with the beginners as much as they need. Other children

are not so anxious to be assured every step is exactly right — are more independent. Another disadvantage is they are not so quiet and orderly in public schools as other children. I notice a great difference in this respect. The Kindergarten children are more restless and noisy, and as we are required to have public school order, it is a great tax on the teacher to train the restless little spirits to be still and quiet. It seems harder for Kindergarten children to learn this. I think Kindergarten training the very best possible thing for *the children*. Its effects stay by them, and show in all their future work. In particular, during the first year, I have found the slate-work to be much neater, more accurate, and in every way superior to the work of those who have not had Kindergarten training. They learn to read more easily, and much faster than others. Their power of language is a great help, and the general culture shows itself noticeably. Most Kindergarten children have a kindly, polite, unselfish way with their playmates, which is a comfort.

24. I have taught beginners six years, receiving from the Kindergartens from three to eight children each year. These children have a much greater knowledge of form, color, and number than the children of the poorer classes who come directly from their homes. They are much more apt in the use of the pencil, and the general intelligence is greater; but they are usually less orderly (*i.e.*, in regard to discipline) than other children, exhibiting a tendency to talk with the other children, to examine the work of others, and they are very apt not to like to do their work unless they receive the special attention of the teacher. I consider the Kindergarten training an advantage. I think my work would be made easier, provided the matter in regard to discipline were considered by the Kindergarten; and I understand that this is the case in many of Mrs. Shaw's Kindergartens. The children who have come under my care have not been from any of those. I have no doubt that children receiving the training in a Kindergarten would be better able to do the work prescribed for the first year in the Primary School, and consequently it would be done with more ease to the child, and greater satisfaction to the teacher.

25. I have taught beginners fifteen years, and during the last six years I have received into my class from the Kindergarten an average of eight or ten. These children are ready to reply when spoken to, which many from home cannot do; they have learned how to think; they are cleanly; they have ideas of politeness in manners. Until the present year, the talking, which has been encouraged in Mrs. Shaw's Kindergartens, has formed habits of whispering and talking, very hard to overcome. With thorough Kindergarten training, I feel sure the children's minds are pre-

pared to receive instruction, and so to advance more rapidly than without it. Most whom I have received have had two years, and more of Kindergarten training, though only five years old when admitted.

26. I have taught beginners three and one-half years, and have had as many as six or eight pupils at a time from the Kindergarten. In my experience, these children are much more intelligent observers of quantity (*i. e.*, numbers of objects), of form, and of color; they are also much more ready to converse than other children, who appear to come from the same kind of homes. In some respects the Kindergarten appears to be an advantage, and the child's mind is so moulded that it can more easily grasp some of the work laid out in the course of study; but children from the Kindergarten are apt to be more noisy in the school-room (I mean they wish to talk aloud to their companions, and also to the teacher, and to move about), and they often dislike and sometimes refuse to do slate-work, and other kinds of silent, individual work, unless the teacher is there. When the teacher is obliged to attend to other matters, such children neglect their work. I feel that if each child had a year in the Kindergarten, it would be an advantage to our Primary Schools; but I feel sure that too long a time spent in the elementary Kindergarten is a great disadvantage to some, that is, if the child is to enter a Primary School afterwards; for, being inclined to such faults as I have named, they gow more fixed in them, by having so much assistance at their work.

27. I have taught beginners three years, and have received from the Kindergarten twenty-three, twenty-seven, and twenty-three pupils in each year respectively. Having received no Kindergarten training myself, I do not know what effect it should have had upon the children. But I have a very clear impression it has made them more talkative than those coming directly from their homes. I am sure they are more observing, and that they know more of color and form, and learn to write sooner. I think Kindergarten training an advantage, and that my present work would be made easier if all the children could have a year of training in the Kindergarten. At any rate, I would like very much to try an entire class of Kindergarten children, even though they do talk right out loud. But before the Kindergarten is adopted, I think all the Primary teachers should be trained in Kindergarten work. Mayn't we have some lessons?

28. I have taught beginners nearly seven years. Regret to say that, owing to not having a Kindergarten in our district, the number of children I have had from the Kindergarten has been very small, not exceeding four or five a year. I have found from those who came to me

after a year's training in a good Kindergarten that they are much more ready to grasp a new idea; their perceptive faculties more fully awakened, their power of expression much in advance of others, and as regards color and form lessons they have far surpassed those who have not had the advantage of the training. I am convinced that a good Kindergarten training preparatory to entering this class would not only advance the work, but in very many respects make it much easier for us in our work. Being very much interested in the Kindergarten, I feel that a great injustice has been done them by some who have judged them all by two or three unruly children whom they have happened to have. Knowing how much has been done in number work, in some of the Kindergartens, how much ease has been acquired in the use of the pencil, how their voices have been trained in singing, and also how they have been trained in matters of politeness, and unselfishness, neatness, and in numerous other directions, I cannot but feel that the training in connection with Primary work would be of inestimable value, not only to the children, but to those who have the care of them both at home and in school.

29. I have taught beginners twenty years, and for the past eight years have received from six to eight pupils each year from a charity Kindergarten. Do not think they were any better prepared for Primary work than those who came direct from home. Having no knowledge of Kindergarten training I cannot judge of its advantages or disadvantages. Should be glad of anything that would tend to advance our work or lighten our labor.

30. I have taught beginners fifteen years, receiving from three to ten children a year from Kindergartens. Kindergarten training, according to my idea, thoroughly unfits a child for practical work. It would be a great disadvantage in relation to the Primary work that follows, and my present work would not be advanced or made easier in any way if all pupils took a year of Kindergarten training before coming to me. During the present year I have had eight children from Kindergartens. With one exception they have proved to be the most troublesome children in the school, and they are not as far advanced as many that entered without any training. I find it impossible to make them work unless by giving them exclusive attention, which cannot be done in a public school.

31. I have taught beginners about ten years, and have received from five to eight pupils each year from the Kindergarten. My impressions as to the effects of Kindergarten training are not particularly agreeable. I find the children *more* restless, needing more amusement than the

present course of study would permit of. Judging from my past experience my work would not be made easier if all the children had Kindergarten training. I can speak in praise of the ability of the children in singing, most of them having sweet little voices, showing the time devoted to music has been profitably spent.

32. I have been teaching beginners eleven years, and have had each year a very small number from Kindergartens. They have been in nearly all cases much less tractable than those who have come directly from home. They appear to have a restless spirit, and gain with more difficulty than others habits of application.

33. I have taught beginners seven years. During the first two or three years quite a large proportion of my class, since then not more than two or three each year, were from the Kindergartens. The children from the Kindergarten learned to write, indeed to do all kinds of slate-work much quicker than the other children, as they had been trained to *see* accurately; but, as a rule, they were harder to discipline, and were inclined to demand attention impossible to give with fifty-six children under one person's direction. I think that the habits of observation that Kindergarten gives are of great help in the Primary work that follows; but that it is counteracted by the restless ways and want of dependence upon themselves that almost all of the children I have received from the Kindergarten have shown in a marked degree. Therefore, I do not feel prepared to say that my work would be made easier or advanced if all the pupils took a year of Kindergarten training.

34. I have taught beginners six years, and have received about five or six children annually from the Kindergarten. My impression is that in reading the Kindergarten is of no apparent help; in number, as a usual thing, the Kindergarten training enables the children to advance more rapidly; in discipline, the effect has frequently been of disadvantage to them. I think if the Kindergartens were conducted with some reference to the work of the Primary grade, they might prove of help to the third-class children and teachers. In my opinion the Kindergartens are a great success in amusing and interesting the little ones; but, in my experience, I cannot remember a single instance (with the exception I made in regard to number) where the child has advanced in the third class more rapidly because of the previous Kindergarten training. Yet I am not prepared to say the Kindergartens are a disadvantage to us. It has been my theory for years (and the longer I teach the more convinced I am of its wisdom) that if no child were allowed to attend any school before the age of eight

years, the American young men and women at eighteen would be far healthier and much wiser. If the children would be advanced as soon as their teachers saw fit instead of once a year, a child of eight at entering would at the age of ten, ordinarily, be as far advanced as one who entered at five years of age. With these ideas you can readily perceive that I could not heartily approve of Kindergarten as part of the public-school system, although I can thoroughly appreciate them as places of rest and amusement for the children of the poor.

Such is the evidence. The conclusions it supports may be summarily stated as follows: —

1. On the intellectual side, the effects of Kindergarten training are shown in highly quickened powers of observation; in the possession of clear ideas, derived chiefly from systematically guided observation; in the power to express these ideas well in conversation; in the great readiness with which the art of reading is learned; in the very considerable knowledge of numbers and their relations objectively acquired; in some knowledge of forms and colors; in a considerable development and discipline of the active powers, as displayed in the comparative ease with which the manual arts of drawing, writing, and slate-work are acquired. All this is not only a preparation for the intellectual training usually regarded as the peculiar function of the schools, but a very substantial advancement in that training.

2. On the moral side, the effects of good Kindergarten training are traceable in the first manifestations of a sense of justice, one child learning to recognize the rights of other children as limitations on his own rights; in habitual acts of kindness and generosity, evincing a disposition to yield to others what may gratify them but cannot be demanded by them as a matter of right; in polite mánners; in truthfulness, its opposite never being fostered by harsh discipline; in an eager desire to please the teacher; and finally, to refer to a characteristic which may certainly be ranked as a virtue, in personal cleanliness and neatness. Of course it is not said or implied that moral training is absent from the Primary Schools; but it appears to be true that the Kindergarten training is peculiarly designed to accomplish the ends of moral instruction.

3. The Kindergarten would certainly give to the five-year-old children now in our schools — and to many even younger — a

kind of training much better suited to their wants than is the training now generally given in the beginners' classes. Better classification, and therefore better instruction, would result from placing the youngest children by themselves in a Kindergarten.

4. As to discipline — the chief point on which opinions differ — the evidence proves that the spirit of the discipline in some Primary Schools is not in harmony with that of the discipline in some Kindergartens. There are sometimes Kindergartens in which unguided activity — mere play — comes too near being the rule; on the other hand, there are Primary Schools in which repressed activity — unoccupied quietude — would seem to be the principal aim. But there is no doubt that the best Kindergarten discipline and the best Primary School discipline are alike in spirit and effect; and that, with improvement on both sides, the difficulties arising from inferior discipline will pass away. Such improvement would be strongly promoted by the more intimate association of Primary School and Kindergarten now proposed.

5. The Kindergarten affords a much-needed protection from the injurious influences of the street during that period of life in which the child is old enough to stray out of the house, but not old enough to take hold of the Primary School work as now set before him.

6. For those unfortunate children — and they are many — who suffer from parental carelessness, indifference, ignorance, or poverty, the Kindergarten measurably supplies what the home does not, — kindly nurture in the virtues and graces of a more refined and elevated domestic life.

Respectfully submitted,

EDWIN P. SEAVER,

Superintendent of Schools.

SCHOOL DOCUMENT NO. 22—1887.

ANNUAL REPORT

OF THE

COMMITTEE ON MANUAL TRAINING SCHOOLS.

1887.

BOSTON:
ROCKWELL AND CHURCHILL, CITY PRINTERS,
No. 39 ARCH STREET.
1887.

In School Committee,
Boston, Dec. 27, 1887.

Accepted, and ordered to be printed.

Attest:

PHINEAS BATES,
Secretary.

REPORT.

The Manual Training School finished its third year in June.

Ten classes in carpentry (each class receiving one lesson per week) have been at work all the school year.

The ten classes attended the school as follows: —

Monday	A.M., Lawrence School .	20 boys.
	P.M., Brimmer " .	20 "
Tuesday	A.M., Dwight " .	20 "
	P.M., Phillips " .	20 "
Wednesday	A.M., Lowell " .	20 "
	P.M., Sherwin " .	20 "
Thursday	A.M., Dudley " .	20 "
	P.M., Quincy " .	20 "
Friday	A.M., Dearborn " .	20 "
	P.M., Prince " .	20 "
		200 "

Of the 200 boys who began the year in September in the school the following dropped out during the year, viz.: from the Lawrence School 2, from the Brimmer School 7, from the Dwight School 3, from the Phillips School 5, from the Lowell School 2, from the Sherwin School 7, from the Dudley School 6, from the Quincy School 8, from the Dearborn School 7, and from the Prince School 2. Total number of boys who have left the school during the year, 49. Of

these, 33 left because of obtaining employment, 1 because of sickness, and 1 because of change of residence.

Of the remaining 16, 4 were discharged because of disobedience, and 2 because of dulness in their regular school studies. The remaining 10 withdrew for reasons unknown to us. Five boys from the Horace Mann School and 5 from other schools helped to fill some of the above vacancies.

We see no chance for advancement in carpentry work until we obtain better accommodations. When the new "Horace Mann School" is completed, we propose to ask the School Committee for the use of the old building. Then there will be some opportunity to develop in a more proper and satisfactory form this and other branches of manual training for boys.

Boston School Kitchen No. 1.

(*Tennyson-street Primary School Building.*)

Ten classes, of 15 girls each, have received 20 lessons, and 10 classes of the same size have received 16 lessons, each class receiving one lesson per week. It is our purpose that every pupil in future shall receive 20 lessons.

The pupils of this kitchen were supplied by the following schools: —

FIRST TERM — 20 LESSONS.

Monday,	Hyde School . .	30 girls.
Tuesday,	Winthrop " . .	30 "
Wednesday,	Franklin " . .	30 "
Thursday,	Everett " . .	30 "
Friday,	Winthrop " . .	27 "
	Horace Mann School .	3 "
Total number attending during the first term		150 "

Cost of provisions and fuel for 150 girls, 20 lessons,			$42 50
" " " per girl,	" "		0 28$\frac{1}{3}$
" " " "	per lesson,		0 01$\frac{4}{10}$

Number of dishes cooked at home by pupils, 10,740.

SECOND TERM — 16 LESSONS.

Monday,	Hyde School . .	30 girls.
Tuesday,	Winthrop " . .	30 "
Wednesday,	Franklin " . .	30 "
Thursday,	Everett " . .	30 "
Friday,	Winthrop " . .	30 "
	Total number attending during the second term	150

Cost of provisions and fuel, 150 girls, 16 lessons,		$33 00
" " " per girl, 16 lessons,		0 22
" " " " "	per lesson,	0 01$\frac{3}{8}$

Number of dishes cooked at home by pupils, 12,100.

Total number of dishes cooked at home by pupils during both terms, 22,840.

Total number of pupils during the year, 300.

Of 700 families who have been represented at this school during 1885–1886 and to June, 1887, 692 have expressed themselves very much in favor of the school. Only 8 families have been indifferent or not favorable.

This School Kitchen is now being transferred to the Rutland-street Primary School Building, South End, because of the more convenient location.

All the expenses of this School Kitchen up to the present time have been borne by Mrs. Augustus Hemenway. It was her intention to have given up this School Kitchen to the city of Boston this year, having demonstrated the great need of these schools. She feared, however, lest the School

Committee would not be able to establish the schools as fast as the public demanded them, and therefore volunteered to pay all the expenses for another year.

We recommend that the School Committee assume the expense of this school next September. It was the first School Kitchen for the children of our schools. It was also the first public School Kitchen in the country. In this connection we take great pleasure in congratulating Mrs. Hemenway upon the solid success of her two great conceptions, Sewing and Cookery in our schools. To her energy and liberality this result is mainly due.

Boston School Kitchen No. 2.

(*Drake Primary School Building, South Boston.*)

This school began Dec. 17, 1886, and closed June 24, 1887.

Ten classes, of 20 girls each (each class receiving one lesson per week), have received 24 lessons.

The ten classes were supplied by the following schools: —

Monday,	Norcross School . .	40 girls.
Tuesday,	Andrew " . .	40 "
Wednesday,	Gaston " . .	40 "
Thursday,	Shurtleff " . .	40 "
Friday,	Norcross " . .	40 "
Total pupils attending . . .		200 "

The entire expense of this kitchen is paid by the city of Boston.

Boston School Kitchen No. 3.

(*Child-St. Primary School Building, Jamaica Plain.*)

This school began Dec. 21, 1886, and closed June 24, 1887. Nine classes, of about 15 girls each (each class receiving one lesson per week), have received 22 lessons.

The nine classes were supplied by the following schools :—

Monday,	West Roxbury High School .	15 girls.
Tuesday,	Hillside School . . .	30 "
Wednesday,	Lowell " . . .	33 "
Thursday	A.M., Chas. Sumner School . .	15 "
	P.M., West Roxbury High School .	15 "
Friday	A.M., Geo. Putnam School . .	15 "
		123 "

Number of dishes cooked at home during the school term by pupils, 10,618.

This school was started so late that only one course, of 22 lessons, was given.

It is supported by the public spirit and generosity of the ladies of Jamaica Plain, and the Eliot Association.

Boston School Kitchen No. 4.

(*Quincy-St. Primary School Building, Roxbury.*)

We have established, at the expense of the city, this year (September, 1887), School Kitchen No. 4. It is located on the first floor of the Quincy-St. Primary School building, Roxbury. Twenty girls per lesson can be accommodated, or 400 during the year.

The Comins, Dearborn, Dillaway, Hugh O'Brien, Lewis, Martin, and Dorchester-Everett Schools furnish the pupils.

We intended to open a kitchen in Charlestown last September, but were unable to obtain a satisfactory teacher. We now expect to start this kitchen about Feb. 1, 1888.

North Bennet-St. School Kitchen.

In addition to the above-mentioned School Kitchens which are directly in the charge of your committee, in public-school buildings, the School Kitchen of the North Bennet-street Industrial School is under our supervision. The plan of work is identical with that of the other School Kitchens.

Ten classes, of 20 girls each (each class receiving one lesson per week), have received 20 lessons the first half of the school year, and a similar number the last half of the year.

The ten classes were supplied by the following schools: —

Monday	A.M.,	Harvard School .	20 girls.
	P.M.,	Bowdoin " .	20 "
Tuesday	A.M.,	Prescott " .	20 "
	P.M.,	Frothingham " .	20 "
Wednesday	A.M.,	Hancock " .	20 "
	P.M.,	Wells 10 girls Bowdoin 10 "	20 "
Thursday	A.M.,	Hancock School .	20 "
	P.M.,	East Boston High School	20 "
Friday	A.M.,	Lyman School	20 "
	P.M.,	Bunker Hill "	29 "
Total number of pupils attending .			200 "
" " " " taught during the year			400 "

The entire expense of this school is defrayed by Mrs. Quincy A. Shaw and her generous friends.

It will be noted that to-day all the girls in the schools of the city proper, South Boston, Roxbury, and West Roxbury, have an opportunity to receive a course of 20 lessons in cookery. The girls of a large part of Charlestown and East Boston, and a part of Dorchester, enjoy the same advantages.

To-day 900 girls are attending our Schools of Cookery. During the current school year, 1,800 will receive a good education in this line of work.

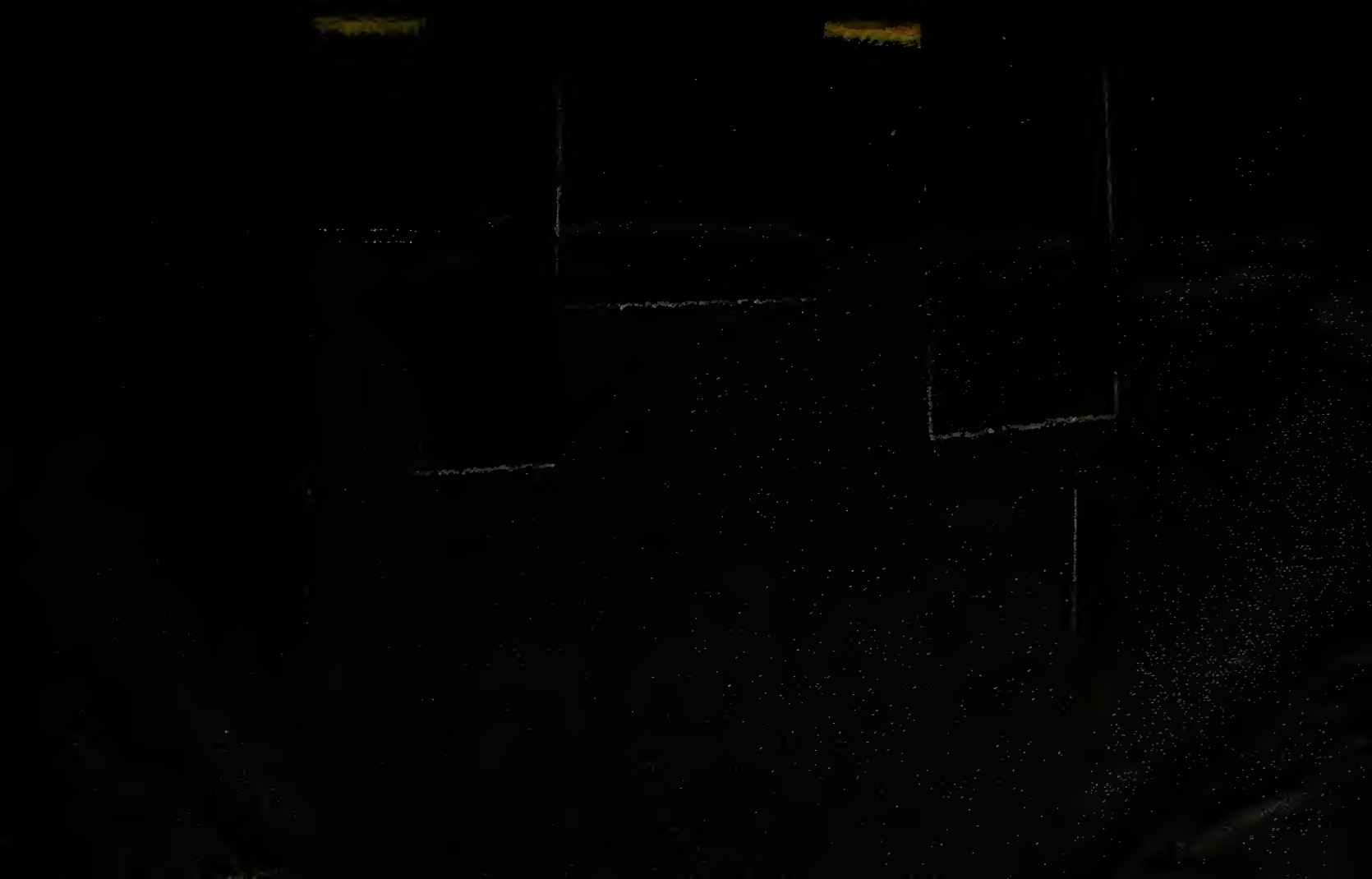
In addition to the School Kitchen, the kind-hearted ladies of the North Bennet-street Industrial School maintain, for the benefit of the children of our city, classes in carpentry, printing, shoemaking, and modelling.

The following statement of the pupils of the public schools attending classes in "Manual Training," at North Bennet street, will give an idea of the work done there under the supervision of your committee: —

		Printing.	Shoemaking.	Elem. Carpentry.	Adv. Carpentry.	Cooking.	Modelling.	Total no. pupils from each school per day.	Total no. pupils per day.
Monday	Harvard School	14	. .	. .	30	20	12	76	
	Eliot School	13	. .	24	. .	. .	24	61	
	E. Boston High School	. .	12	. .	. .	. .	. .	12	
	Bowdoin School	. .	. .	. .	. .	20	. .	20	169
Tuesday	Prescott School	13	. .	. .	15	20	. .	48	
	Frothingham School	13	. .	. .	15	20	. .	48	
	Eliot School	. .	12	24	. .	. .	24	60	
	Horace Mann School	. .	. .	. .	. .	. .	9	9	165
Wednesday	Eliot School	13	12	24	15	. .	24	88	
	Hancock School	. .	. .	. .	. .	20	. .	20	
	Wells School	. .	. .	. .	. .	10	. .	10	
	Bowdoin School	. .	. .	. .	. .	10	. .	10	
	E. Boston High School	. .	. .	. .	. .	. .	13	13	
	Horace Mann School	7	6	. .	7	. .	. .	20	161
Thursday	Eliot School	26	24	24	15	. .	24	113	
	Hancock School	. .	. .	. .	. .	20	. .	20	
	E. Boston High School	. .	. .	. .	15	20	. .	35	
	Horace Mann School	. .	. .	. .	. .	. .	9	9	177
Friday	Eliot School	13	12	24	. .	. .	. .	49	
	Lyman School	. .	. .	. .	15	20	. .	35	
	Bunker Hill School	13	. .	. .	15	20	. .	48	132
	Total number pupils per week	125	78	120	142	200	139	804	804

It will be noted that the Schools of Cookery have had a rapid growth during the school year just past. They are exceedingly popular with the parents of our city. They bring keenly interested girls, from great distances, to the work. The average number of dishes per girl, cooked at home, becomes greater every month. We can all see the great comfort and value these girls carry into their homes.

No school established among us ever received such quick appreciation from all classes of our people. That appreciation grows even more strong and more hearty every day.

For the Committee,

JAMES S. MURPHY,
Chairman.